AD-A192 414 REPORT ON ALLIED CONTRIBUTIONS TO THE COMMON DEFENSE 1/2
(U) DEPARTMENT OF DEFENSE WASHINGTON DC C W WEINBERGER
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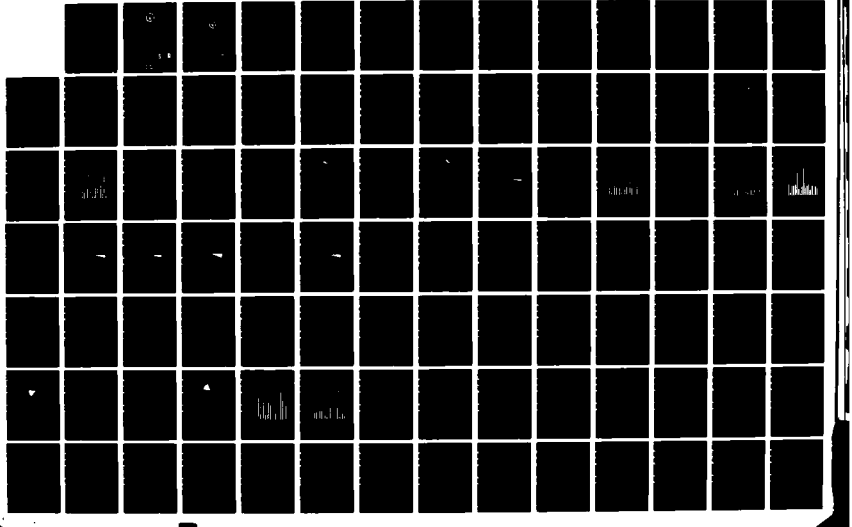

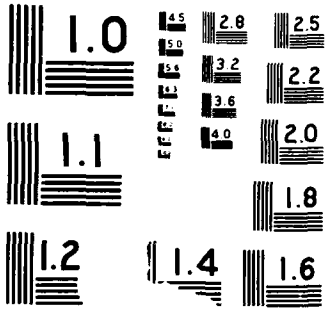
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Department of Defense

Report on Allied Contributions to the Common Defense

A Report to the United States Congress

by Caspar W. Weinberger
Secretary of Defense

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TO THE CONGRESS OF THE UNITED STATES:

I am pleased to submit this report on Allied contributions to the common defense. This is the seventh year the Department has submitted such a Report, as now required by the provisions of Section 1003, P.L. 98-525, Department of Defense Authorization Act, 1985. In addition, this year's Report responds to a request for information contained in Section 812, P.L. 99-93, Department of State Authorization Act, 1986.

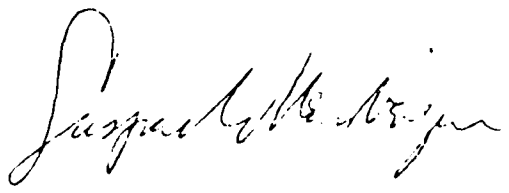
The Department fully shares the continuing interest of the Congress in the question of the sharing of the common defense burden among the United States, its NATO allies, and Japan. This issue often figures, directly or indirectly, in proposals made from time to time for the withdrawal from Europe of substantial numbers of U.S. troops. While our strong opposition to such proposals is based primarily on a sober calculation of U.S. national security interests, it is also important to have at hand the most accurate possible judgments about Alliance burdensharing issues. For we recognize, as does the Congress, that Alliances will endure only if the burdens and benefits of the enterprise are equitably shared -- and perceived to be so -- by the participants.

Accordingly, this Report represents our best efforts to contribute to a broader understanding of this complex question. A large number of varied criteria are presented and discussed. Each is relevant to the issue at hand, but none is adequate alone to define a nation's "fair share" of the overall burden. Nevertheless, a careful review of nations' performance against all the criteria considered does yield a number of pertinent findings.

A principal conclusion is that our allies continue to make a very substantial contribution to the common defense -- considerably more than they are often given credit for. While the United States by certain measures is doing more than almost all its partners, other valid measures of performance convey a much more positive picture of the allied contribution. I believe these conclusions will be apparent from a careful reading of the report, including its charts. It must be added, however, that there are substantial variations in performance among individual allies. One must, therefore, use care in dealing with weighted averages to categorize the performance of our NATO allies, or our NATO allies and Japan, as a single group.

Based on the comprehensive appraisal contained in the Report, I would stress that there is no need to allow a debate about burdensharing details to obscure a central fact: that we all -- the allies and the United States -- need to do more in order to ensure the

credibility of the West's security posture in the decade ahead. We are working with all our allies to increase their individual and collective efforts and to improve the efficiency with which the Alliance uses the resources available to it. Our influence in this regard, however, is a function of our ability to maintain our leadership position in the Alliance and to meet our own commitment to an increased defense effort. The support of the Congress for the defense budget and troop levels in Europe as proposed by the Administration will be crucial to the attainment of these objectives.



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I. INTRODUCTION AND OVERVIEW

PURPOSE

This report responds to Congress' interest in the extent to which our principal allies are contributing their fair share of the effort to provide for our common defense. It analyzes various burdensharing indices and factors for the United States, our NATO allies and Japan, offers some conclusions as to recent and current performance, and describes what is being done to encourage the allies to do more.

WHAT IS BURDENSHARING?

Our defense arrangements with members of NATO and Japan rest on formal commitments, freely made by sovereign nations, to contribute by collective efforts to our common security. Alliances, like other agreements, remain healthy so long as they respond to shared national interests. They remain acceptable to members so long as risks and responsibilities are -- and are perceived as being -- equitably shared. The contributions of partners include both material (quantifiable) factors as well as intangible (e.g., political factors, as when governments persevere in policies serving overall security interests in the face of competing domestic and international pressures).

RECENT DEVELOPMENTS

Conventional Defense. The NATO Ministers, at their December 1986 meeting, reaffirmed the need for continuing improvement of NATO's conventional defense capabilities (CDI). The CDI plan of action approved by the NATO Defense Ministers in May 1985 mandated the highlighting of selected force goals regarded as most relevant to correcting agreed CDI deficiencies. Most of the NATO countries have reported plans to implement a good proportion of their CDI-highlighted force goals; the progress of the larger NATO countries is especially good in this respect. In addition, all relevant NATO committees have been asked to consider actions to supplement the force goals in the agreed areas of deficiency. The Executive Working Group's report of December 1986 indicates that all of these committees are making progress on the agreed deficiencies in their respective areas of responsibility.

Infrastructure Program. The Infrastructure program provides facilities for the collective needs of Alliance forces. Funding for the six-year period 1985-1990 was increased in December 1984 to 3.0 Billion Infrastructure Accounting Units (BIAU) (approximately $10.2 billion), which is more than double the funding agreed to in the previous five-year programs. NATO nations have responded to the increased funding with a corresponding increase in the number of projects they are implementing. The fourth year of the program is now ready to execute with over $1.5 billion in high priority projects to be completed, 90 percent of which are related to conventional defense improvements.

While the total funding for this program has increased substantially, the share of these costs borne by the United states has decreased from 43 percent originally to just over 27 percent today.

Sustainability. Responding to Secretary Weinberger's December 1983 initiative, the NATO Ministers have committed their nations to increasing ammunition stock levels. The main focus of this effort is on specific critical munitions which are identified item-by-item for each nation in the form of CDI highlighted force goals. Among all of the non-US CDI highlighted ammunition objectives--totaling over 35 items of land, air and maritime munitions combined--roughly one-half will be fully or almost fully implemented. Overall, taking into account both CDI and non-CDI items, the non-US NATO allies, particularly the Central Region countries, continue to project progress in increasing their holdings of major ground, air and maritime munitions. The relatively positive picture portrayed here is not intended to suggest that NATO's ammunition situation is now fully satisfactory. Rather, the important point is that while major shortfalls do currently exist in several key munitions categories, the Alliance has in recent years undertaken vigorous efforts to improve and these efforts are beginning to pay off. Steady progress continues to be made also in achieving the desired level of on-hand fuel supplies. The 1986-1990 Japanese defense program brings Ground Self-Defense Force sustainability to one month and Maritime and Air Self-Defense Force levels up to a similar or greater level.

THE QUESTION OF FAIR SHARE

As will be discussed in the next section, there is no single, universally accepted formula for calculating each country's "fair share." Therefore, what we have attempted to do in this report is (1) portray the efforts of the NATO nations and Japan on the basis of a variety of key quantitative indicators, (2) discuss the purpose and utility of each indicator as well as important caveats and limitations, (3) highlight important non-quantifiable factors that must be considered to round out the picture, and (4) provide an overall assessment based on all of these factors.

POLITICAL ASPECTS

Any assessment of burdensharing must include an examination of the political environment in which allied governments operate. We continue to share with our allies a common perception of the serious threat that the Soviet Union and its military buildup poses to Alliance security. However, there are understandable differences among the allies as to the most appropriate way to meet the Soviet challenge. These differences arise not only by virtue of history and culture, but also because of geography.

Because their homeland is the potential battlefield, the Europeans' sense of the risks of conflict is more immediate than our own or the Japanese, and the public desire for an easing of East-West tensions is more wide-spread. Families divided by the East-West border have different perceptions and different priorities for an East-West rapprochement. And Europe generally tends to attach greater importance to expanding East-West trade.

With these factors in mind, we must regard the leadership that European governments have provided, and their successes in support of Alliance defense policies, as very real contributions to burdensharing. Differences in perspective that sometimes lead the allies to take independent positions have not marred a record of cooperation that is, on the whole, remarkably good (and surely the envy of any other Alliance system).

An important ongoing success in political burdensharing is the unity and resolve the European allies have shown in staying on course for the deployment of longer-range intermediate-range nuclear forces (LRINF) in the absence of an arms control agreement obviating the need for such deployment. Soviet diplomatic pressures, a massive Soviet effort to influence European public opinion, and even openly enunciated threats have not derailed the NATO "two-track" decision of December 1979. In particular, the governments of the United Kingdom, Germany, Italy, Belgium and The Netherlands have withstood intense pressure to alter their stand. Without their steadfast support and their willingness to undertake ambitious public information programs, deployments would not have been possible.

Moreover, in the eighth year of the Soviet occupation of Afghanistan, it is well to recall that our allies took steps to impose political and economic costs on the Soviet Union for its invasion there and that European and Japanese leaders greeted its seventh anniversary with renewed condemnations. The allies also supported the President firmly in his talks with General Secretary Gorbachev at Reykjavik.

QUANTITATIVE MEASURES

By some numerical comparisons the United States is clearly doing more than most of its allies. In recent years the United States has allocated between six and seven percent of its gross domestic product (GDP) for defense, compared with allied percentages that range from as high as six to seven percent for Greece and five percent for the United Kingdom to as low as slightly above two percent for Canada and Denmark and one percent for Japan. As a group, the non-US NATO allies have consistently spent around three-and-one-half percent of their GDP for defense. There are, however, a number of factors that tend to moderate these disparities. Some of our allies would say that the disparity between the US share of GDP for defense and the non-US NATO weighted average can be attributed, in part, to our role as a nuclear superpower and our worldwide interests and responsibilities. It is also important to recognize that the relatively high real growth in US defense spending in recent years reflects, in part, an effort to compensate for the real decreases and low growth rates the United States experienced during most of the 1970s, when our allies were achieving steady real increases. Most NATO countries (the exceptions are the United Kingdom, United States, Canada and Luxembourg) rely on conscripted manpower for military personnel, resulting, in many instances, in lower manpower costs and a larger trained reserve manpower pool than they would have had with an all-volunteer force. Moreover, some relevant allied economic burdens are not included in the defense expenditure figures used by NATO and the United States for burdensharing assessments. Examples include proportionally

greater developmental assistance and, for the Federal Republic of Germany, the Berlin expenditures and the loss of relatively greater rents and tax revenue due to the large amount of real estate dedicated to defense purposes.

Moreover, for some important quantitative defense measures our NATO allies and Japan compare well with the United States. For example, our NATO allies field roughly the same active duty military manpower as a percent of population as the United States and substantially more Division Equivalent Firepower (DEF) and tactical combat air force aircraft in relation to their economic strength. Japan has more than twice as many destroyers and more than three times as many anti-submarine aircraft in the Pacific as the US Seventh Fleet and as many fighter aircraft defending its territory as the US has defending the continental United States.

Based on a review of all factors, one may conclude that the non-US NATO allies and Japan, as a group, are making a substantial contribution to the common defense. They are certainly doing much better than is commonly recognized. Important differences emerge, however, when the results for individual countries are compared. Some nations appear to be doing at least their fair share; other nations appear, on the whole, to be making financial contributions below their fair share.

Because of the many judgments involved in taking account of the intangibles and weighing the individual indicators, there may be honest differences of opinion on how best to characterize the burdensharing efforts of our allies, both in the aggregate and individually. We do not believe, however, that there are any major differences between the administration and the US Congress on the more important question of whether our allies should do more. Increased efforts on the part of all member nations are needed, not because of burdensharing statistics but because of military assessments of the need for substantial improvements in NATO's capabilities. We have been working on many fronts to encourage our allies to improve their defense capabilities. The results of recent Defense Planning Committee (DPC) Ministerial meetings, discussed at the start of this chapter, provide strong evidence that progress is being achieved.

We believe that we will continue to make progress in obtaining important Alliance capability improvements as long as we focus attention on the objective need for such improvements. Achieving US security goals would cost much more if the NATO Alliance and our partnership with Japan were permitted to become weak as a result of divisive arguments over defense burdensharing. Unilateral pronouncements by the United States on the extent to which our allies are or are not sharing the burden are not an effective formula for encouraging improved allied efforts. Our positive leadership has always been, and will remain, a better means to ensure the adequacy of our common defense effort.

II. COMPARISON OF SELECTED INDICATORS OF BURDENSHARING

Defense analysts do not have a single, universally accepted formula for calculating a country's "fair share" of the collective defense burden. Any such calculation would have to take account of, and weigh, the many disparate factors that together determine the level of a nation's defense effort. The task is more complicated than simply identifying which factors to count, and deciding how each should be weighed relative to the others. While many components of defense effort are measurable, others are much more subjective in nature and do not readily lend themselves to quantification. Consequently, even the most sophisticated techniques in our analytical tool kit today cannot provide a definitive solution to the fair-share problem.

In order to be responsive to the spirit of the Congress's request for a comparison of "fair and equitable shares . . . that should be borne" and "actual defense efforts . . . that currently exist," this report adopts an approach that entails displaying selected quantitative indicators side by side. The overall assessment is a judgmental evaluation that takes into account these quantitative measures as well as the difficult-to-quantify and intangible factors discussed elsewhere in the text.

Broadly speaking, the quantitative measures of performance used in this analysis can be grouped into three general categories:

- Indicators of nations' ability to contribute (Table II-1);
- Indicators of nations' actual contributions (Table II-2); and
- Indicators that measure nations' contributions as a function of their ability to contribute (Table II-3).

To simplify the comparisons, most of the indicators considered in Tables II-1 and II-2 measure a country's relative performance in one of two ways: (1) as a share of the combined NATO/Japan total and (2) as a percentage of the value of the highest-ranking nation. The figures in Table II-3 are expressed as ratios, calculated by dividing the "contribution" shares by the "ability to contribute" shares. Simply stated, a ratio of around 1.0 indicates that a nation's contribution and its ability to contribute are roughly in balance. A ratio above 1.0 suggests that a country is contributing beyond its "fair share" for the particular measure in question, whereas a ratio below 1.0 implies that a country's contribution is not commensurate with its ability to contribute. 1/ This approach enables us to consider and compare a variety of disparate measures using a common, easily comprehensible scale.

1/ Since the ratio for all nations combined is 1.0, a country value of 1.0 means that the nation's contribution is consistent with the NATO and Japan average. By the same token, a ratio greater than 1.0 means that the country is above the average, whereas a ratio less than 1.0 means that it is below the average. Since Table II-3 considers a wide variety of burdensharing measures, comparable ratios on two or more indicators may not represent comparable burdensharing efforts.

TABLE II-1

A. Selected Indicators of Ability to Contribute
(Including Spain)

Rank	(A1) GDP Share		(A2) Population Share		(A3) Per Capita GDP (% of Highest Nation)	
1	US	47.53%	US	31.57%	US	100.0%
2	JA	16.86%	JA	15.93%	CA	83.9%
3	GE	7.69%	GE	8.05%	NO	82.1%
4	FR	6.32%	IT	7.54%	DE	70.5%
5	UK	5.58%	UK	7.47%	JA	70.3%
6	IT	4.44%	FR	7.28%	GE	63.5%
7	CA	4.23%	TU	6.58%	LU	60.5%
8	SP	2.08%	SP	5.10%	FR	57.6%
9	NE	1.55%	CA	3.35%	NE	53.8%
10	BE	0.97%	NE	1.91%	BE	49.6%
11	DE	0.72%	PO	1.35%	UK	49.6%
12	NO	0.68%	GR	1.31%	IT	39.1%
13	TU	0.65%	BE	1.30%	SP	27.1%
14	GR	0.40%	DE	0.67%	GR	20.4%
15	PO	0.26%	NO	0.55%	PO	12.6%
16	LU	0.04%	LU	0.05%	TU	6.6%
Non US NATO		35.61%		52.50%		45.0%
Non US NATO + Japan		52.47%		68.43%		50.9%
Total NATO		83.14%		84.07%		65.7%
Total NATO + Japan		100.00%		100.00%		66.4%

TABLE II-2

B. Selected Indicators of Contribution
(Including Spain)

Rank	(B1) Defense Spending Share	(B2) Defense Spending (% Change 71 vs 85)	(B3) Active Defense Manpower Share	(B4) Active Defense Manpower (% Change 71 vs 85)	(B5) Active & Reserve Defense Manpower Share	(B6) Ground Forces DEF Share	(B7) Tac Air Combat Acft Share	(B8) Naval Tonnage (All Ships Less SSBN) Share
1	US 69.88%	GR 133.36%	US 40.50%	TU 33.23%	US 38.46%	US 39.00%	US 45.47%	US 64.02%
2	UK 6.14%	JA 131.84%	TU 10.38%	GR 16.29%	GE 10.83%	GE 11.49%	UK 9.23%	UK 10.89%
3	FR 5.46%	TU 123.99%	FR 8.43%	LU 15.57%	TU 9.06%	TU 9.60%	FR 8.35%	FR 4.83%
4	GE 5.24%	LU 80.94%	GE 8.04%	GE 4.04%	FR 8.71%	GR 6.50%	GE 6.72%	GE 3.21%
5	JA 3.60%	SP 62.61%	IT 7.05%	JA 3.38%	IT 6.40%	FR 6.23%	IT 5.89%	JA 3.13%
6	IT 2.56%	NO 47.38%	UK 6.45%	NO 0.19%	SP 6.27%	UK 5.25%	TU 5.28%	TU 3.09%
7	CA 2.00%	BE 45.73%	SP 6.28%	SP 0.00%	UK 5.34%	IT 4.26%	JA 3.81%	SP 2.20%
8	SP 1.26%	FR 44.39%	JA 3.21%	FR -0.22%	GR 3.68%	SP 3.78%	GR 3.48%	IT 1.82%
9	NE 1.02%	CA 35.44%	GR 2.82%	BE -0.57%	JA 2.22%	JA 3.70%	BE 2.32%	CA 1.78%
10	BE 0.63%	IT 28.45%	NE 1.57%	IT -2.00%	NE 2.17%	NE 3.15%	CA 1.98%	GR 1.66%
11	TU 0.62%	GE 27.85%	CA 1.47%	CA -3.84%	NO 1.84%	DE 1.85%	SP 1.91%	NE 1.43%
12	GR 0.61%	NE 21.60%	PO 1.39%	NE -7.88%	BE 1.79%	NO 1.55%	NE 1.80%	PO 0.63%
13	NO 0.47%	US 20.21%	BE 1.36%	US -11.76%	PO 1.26%	BE 1.45%	DE 1.49%	NO 0.62%
14	DE 0.33%	UK 15.76%	NO 0.56%	UK -25.12%	CA 1.13%	CA 1.37%	PO 1.31%	DE 0.43%
15	PO 0.17%	DE 5.10%	DE 0.47%	DE -27.16%	DE 0.83%	PO 0.78%	NO 0.96%	BE 0.28%
16	LU 0.01%	PO -28.65%	LU 0.02%	PO -53.35%	LU 0.01%	LU 0.01%	LU 0.00%	LU 0.00%
Non-US NATO	26.52%	31.77%	56.30%	- 1.95%*	59.32%	57.29%	50.72%	32.85%
Non-US NATO + Japan	30.12%	38.91%	59.50%	- 1.64%*	61.54%	61.00%	54.53%	35.98%
Total NATO	96.40%	23.26%	96.79%	- 6.60%*	97.78%	96.30%	96.19%	96.87%
Total NATO + Japan	100.00%	25.41%	100.00%	- 6.29%*	100.00%	100.00%	100.00%	100.00%

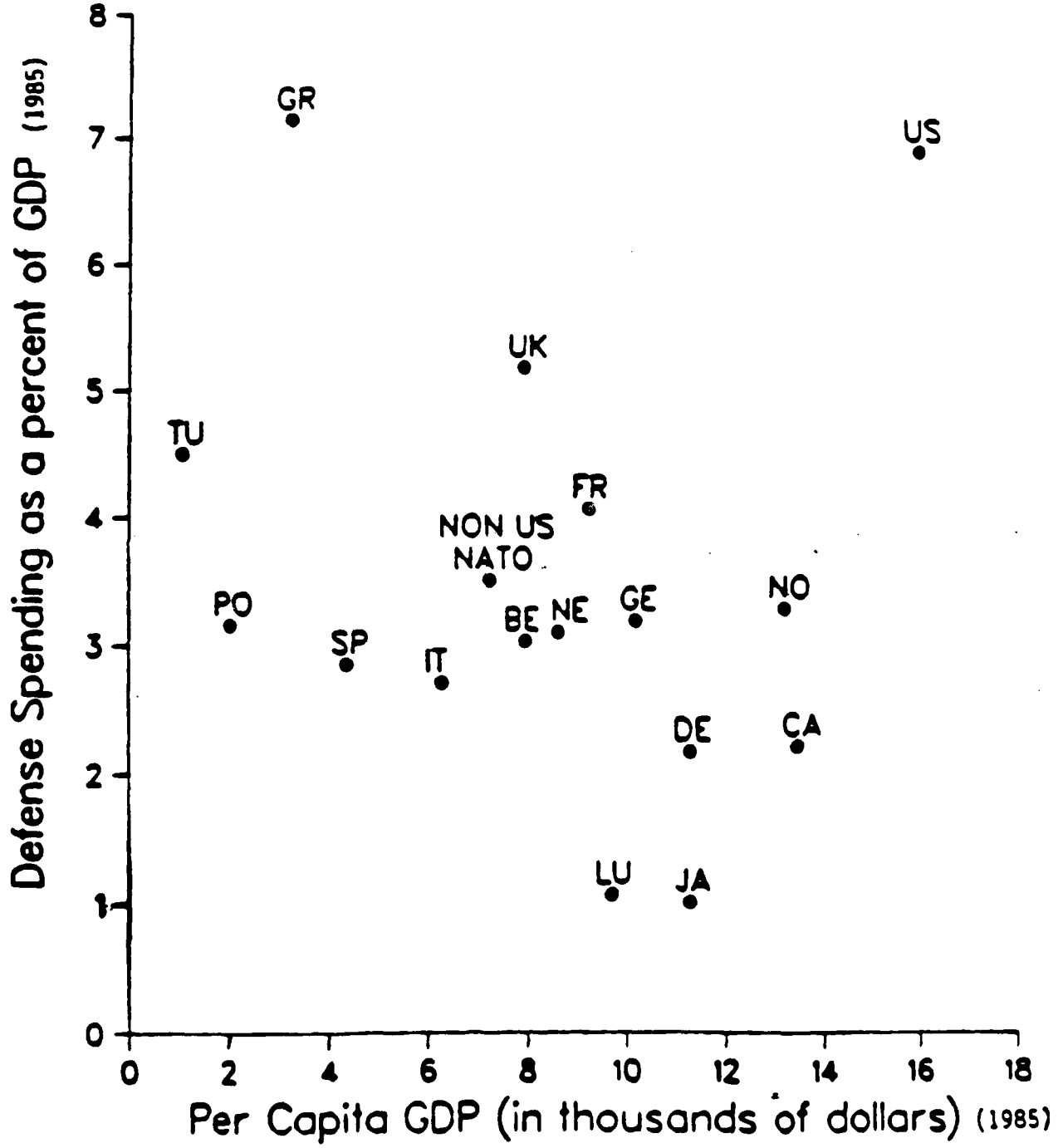
*Excludes Spain

TABLE II-3

C. Selected Indicators Comparing Contribution With Ability to Contribute
(Including Spain)

Rank	(C1) Ratio: Def. Spend. Share/GDP Share (B1 ÷ A1)		(C2) Ratio: Active Def. Manpower/ Pop. Share (B3 ÷ A2)		(C3) Ratio: Active & Res. Def. Manpower/ Pop. Share (B5 ÷ A2)		(C4) Ratio: DEF Share/ GDP Share (B6 ÷ A1)		(C5) Ratio: Acft Share/ GDP Share (B7 ÷ A1)		(C6) Ratio: Naval Tonnage Share/GDP Share (B8 ÷ A1)	
1	GR	1.52	GR	2.15	NO	3.35	GR	16.10	GR	8.60	TU	4.75
2	US	1.47	TU	1.58	GR	2.81	TU	14.72	TU	8.10	GR	4.20
3	UK	1.10	US	1.28	TU	1.38	PO	3.04	PO	5.08	PO	2.42
4	TU	0.95	SP	1.23	BE	1.37	DE	2.58	BE	2.39	UK	1.95
5	FR	0.86	FR	1.16	GE	1.35	NO	2.30	DE	2.09	US	1.35
6	NO	0.70	BE	1.05	DE	1.23	NE	2.04	UK	1.65	SP	1.06
7	GE	0.68	PO	1.03	SP	1.23	SP	1.82	NO	1.42	NE	0.92
8	PO	0.67	NO	1.03	US	1.22	BE	1.50	IT	1.33	NO	0.91
9	NE	0.66	GE	1.00	FR	1.20	GE	1.49	FR	1.32	FR	0.76
10	BE	0.65	IT	0.94	NE	1.13	FR	0.99	NE	1.16	DE	0.60
11	SP	0.61	UK	0.86	PO	0.93	IT	0.96	US	0.96	CA	0.42
12	IT	0.58	NE	0.82	IT	0.85	UK	0.94	SP	0.92	GE	0.42
13	CA	0.47	DE	0.69	UK	0.71	US	0.82	GE	0.87	IT	0.41
14	DE	0.46	CA	0.44	CA	0.34	CA	0.32	CA	0.47	BE	0.30
15	LU	0.23	LU	0.35	LU	0.22	JA	0.22	JA	0.23	JA	0.19
16	JA	0.21	JA	0.20	JA	0.14	LU	0.19	LU	0.00	LU	0.00
Non-US NATO		0.74		1.07		1.13		1.61		1.42		0.92
Non-US NATO + Japan		0.57		0.87		0.90		1.16		1.04		0.69
Total NATO		1.16		1.15		1.16		1.16		1.16		1.17
Total NATO + Japan		1.00		1.00		1.00		1.00		1.00		1.00

CHART II-4


Defense Spending as a percent of GDP (1985)
8
7
6
5
4
3
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FR
NON US
NATO
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BE
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8
10
12
14
16
18
Per Capita GDP (in thousands of dollars) (1985)

The following section summarizes the major findings of the analysis. Subsequent sections describe the various indicators used to measure individual countries' performance and examine the results for each indicator. Appendix A elaborates on that discussion, presenting the detailed results for selected indicators.

As in previous years, data for Spain have been included in the comparisons. Spain joined the NATO Alliance in 1982, but does not commit its forces to NATO's military commands. Consequently, unlike nations that are fully integrated into the Alliance's military structure, Spain has not submitted a reply to NATO's annual Defense Planning Questionnaire, from which much of the historical data reported in this document were drawn. Since in some cases comparable data are not yet available for Spain, some of the charts do not include a Spanish contribution. Where Spain has been included, US estimates were used if Spanish or NATO figures were not available.

Burdensharing Fairness. Any attempt to compare the burdensharing efforts of individual countries must be made with caution, given the wide variation in the countries' ability to contribute to the collective defense. This point is illustrated in Chart II-4, which plots the defense share of gross domestic product (GDP) against per capita GDP. (Per capita GDP is a widely used index of economic development and standard of living, and provides one possible measure of a nation's ability to contribute to defense.) As a group, the non-U.S. NATO allies have an average per capita GDP of $7,200 (less than half the US amount), but they vary widely from country to country in individual per-capita-GDP figures. Although "fairness" is often assumed to imply an equal or proportional sharing of the common defense burden (e.g., equal percentages of GDP devoted to NATO's defense), it could also be considered fair for those countries with a higher standard of living to contribute a greater share of their national income to defense, in much the same way that a progressive income tax collects a greater than proportional share of revenues from individuals in the upper income brackets. There is no analytic basis for choosing between these two perspectives: what constitutes a "fair" distribution of burden is fundamentally a subjective judgment.

MAJOR FINDINGS OF THE ANALYSIS

The conclusions presented below take into account: (1) the ratios recorded in Table II-3, (2) the trend data shown in Table II-2 and discussed in other sections of this report, (3) the difficult-to-quantify and nonquantifiable factors (such as host nation support) discussed elsewhere in this document, and (4) each country's relative standing, vis-a-vis other nations, in economic development and standard of living as indicated by per capita GDP (Chart II-4 and Table II-1, column A-3). Among the ratio data, heaviest weight was given to the defense spending/GDP ratio (C1), as this combines the most comprehensive indicator of defense effort with the most comprehensive indicator of ability to contribute (GDP).

US Effort. Based on the major quantifiable measures examined, the United States appears to be contributing somewhat more than its fair share of the NATO and Japan total. For example, the US defense spending/GDP share ratio (C1) is about 1.5. The ratios for active-duty manpower/population (C2) and active and reserve manpower/population (C3) also exceed the 1.0 norm. Of all the indicators considered in Table II-3, only in division equivalent firepower (C4) does the US ratio drop significantly below 1.0. At the same time, the United States also ranks highest among the NATO nations and Japan in economic development and standard of living, as reflected by per capita GDP ($16,000).

When taking into account our historical role in NATO, the intangible benefits that accrue to the United States as the acknowledged leader of the Free World (we have a greater opportunity to influence world events and shape our own destiny than do our smaller partners), and our high per capita GDP, our allies might argue: (1) that we are getting full value for the extra effort we appear to be expending, and (2) that our leadership role obligates us to do more than simply achieve our statistically computed fair share.

Allied Effort. The comparisons also reveal that the non-US NATO allies as a group are shouldering roughly their fair share of the NATO and Japan defense burden. For example, the weighted-average of their defense spending/GDP share ratio (C1) is 0.74, but their remaining ratios are in the vicinity of, or exceed, 1.0. As noted above, the non-US NATO per capita GDP average is less than half the U.S. figure.

Important differences emerge, however, when the results for individual countries are compared. When all of the major quantifiable indicators included in this report are considered, some of the allies appear to be making contributions that roughly equal or exceed their fair share, while several nations appear to be doing substantially less than their fair share. For other countries, the indicators in question yield a mixed picture.

Japan, the only non-NATO country considered in this analysis, has a high per capita GDP, but ranks last or close to last on most of the indicators surveyed, and thus appears to be doing far less than its fair share. Japan recognizes this and in fact has achieved the second highest percentage change in real defense spending from 1971 to 1985. Moreover, Prime Minister Nakasone's cabinets have authorized defense increases from 1983 to 1986 that amount to approximately 5 percent annual growth in real terms. The United States is encouraging the Japanese to increase their contributions to defense even further.

DESCRIPTION OF BURDENSHARING MEASURES IN TABLES II-1 AND II-2

The quantitative performance ratios cited in the preceding discussion were derived from two major categories of data: indicators of ability to contribute and indicators of actual contributions. The following sections briefly describe the major burdensharing indices associated with each category.

Indicators of Ability to Contribute

The ability of nations to contribute to the collective defense effort (see Table II-1) was evaluated on the basis of three indices:

GDP Share (A1). Reflects the total value of the goods and services produced by a country and is widely used for comparing defense burdens among nations.

Population Share (A2). Indicates the total amount of human resources available to each nation and, thus, is useful in examining defense manpower contributions.

Per Capita GDP (A3). GDP divided by population; a widely accepted measure of economic development and standard of living.

Indicators of Actual Contributions

This analysis draws on eight major measures of contributions to defense (see Table II-2).

Defense Spending (Calendar Year) Share (B1). The share figures recorded for the NATO countries (including the United States) are based on a definition agreed to by NATO of what is to be included in total defense spending. This ensures a much higher degree of comparability than could be achieved using any other available data. Although spending shares are probably the most comprehensive indicator of defense effort, it is important to recognize that they measure input, not output. Also, they do not fully reflect certain important outlays that contribute to a country's overall defense effort (e.g., host nation support).

Percentage Change in Defense Spending (Fiscal Year), 1971 vs. 1985 (B2). Provides an indication of changes in real defense spending. Figures have been computed using constant 1985 prices and 1985 exchange rates.

Active Defense Manpower Share (B3). Reflects active-duty military and civilian manpower levels in peacetime. Including civilians in the calculation helps eliminate comparability problems stemming from differences in national policies on the use of civilians for military tasks.

Percentage Change in Active Defense Manpower Levels, 1971 vs. 1985 (B4). Provides an indication of changes in peacetime active-duty military and civilian manpower strengths.

Active and Reserve Defense Manpower Share (B5). Includes peacetime active-duty end strengths and civilian manpower levels plus an estimate of "committed reserves" (i.e., reservists with mobilization assignments).

Ground Forces Division Equivalent Firepower (DEF) Share (B6). Measures the effectiveness of ground forces as a function of the quantity and quality of their major weapons. The DEF methodology provides a more complete picture of combat effectiveness than do simple counts of combat units and weapons, but does not consider such factors as ammunition availability, logistical support, training, communications, and morale.

Air Force Tactical Combat Aircraft Share (B7). Includes fighter/interceptor, attack, bomber, and tactical reconnaissance aircraft in air force inventories.

Naval Tonnage Share (B8). Includes the aggregate tonnage of all major classes of ships, excluding ballistic missile submarines.

BURDENSHARING MEASURES AND PERFORMANCE

This section provides a detailed comparison of US and allied efforts as measured by the major burdensharing indicators discussed above. The discussion treats each indicator individually, explaining its purpose and utility as well as noting important caveats and limitations. Relevant statistics are summarized in the accompanying charts. As noted earlier, quantitative indicators fall into three general categories: indicators of ability to contribute (e.g., gross

domestic product) 1/; indicators of amount of contribution (e.g., total defense spending, total military and civilian manpower) 2/; and indicators that relate contributions and ability to contribute (e.g., percentage of GDP allocated to defense spending) 3/.

In theory, there could be another category of indicators measuring benefits received. For the most part, these involve highly subjective judgments and are not easy to quantify. Since one of the major benefits or participating in a collective defense effort is successful deterrence of conflict and freedom from foreign domination, some would argue that the larger a nation's population (or the larger its GDP), the more that nation has to lose if the alliance defense effort is not successful. By that line of reasoning, many of the indicators of economic condition and strength would reflect benefits received. Others would argue, however, that successful deterrence and freedom from domination are intangibles best left unquantified.

In the final analysis, our primary goal must be a steady, coherent, and sustained growth of alliance defense capabilities pending the achievement of arms control agreements that would obviate this need. This does not mean that we do not believe the burdens of alliance membership should be distributed as widely and equitably as possible. It does, however, reflect a concern that we have focused too often solely on individual members' contributions to that objective, rather than on the capabilities and requirements of the alliance as a whole.

TOTAL DEFENSE SPENDING

This indicator measures defense spending by nation, both in absolute terms and as a share of the NATO and Japan total (Charts II-5 and II-6). As noted in the previous section, the figures for the NATO nations reflect the types of expenditures defined by NATO as contributing to total defense spending. While this ensures a much higher degree of comparability (both for comparing trends among nations and for examining trends over time) than could be obtained using any other available data, some nations feel their defense efforts are understated by these criteria because they do not include certain expenditures of a unique nature.

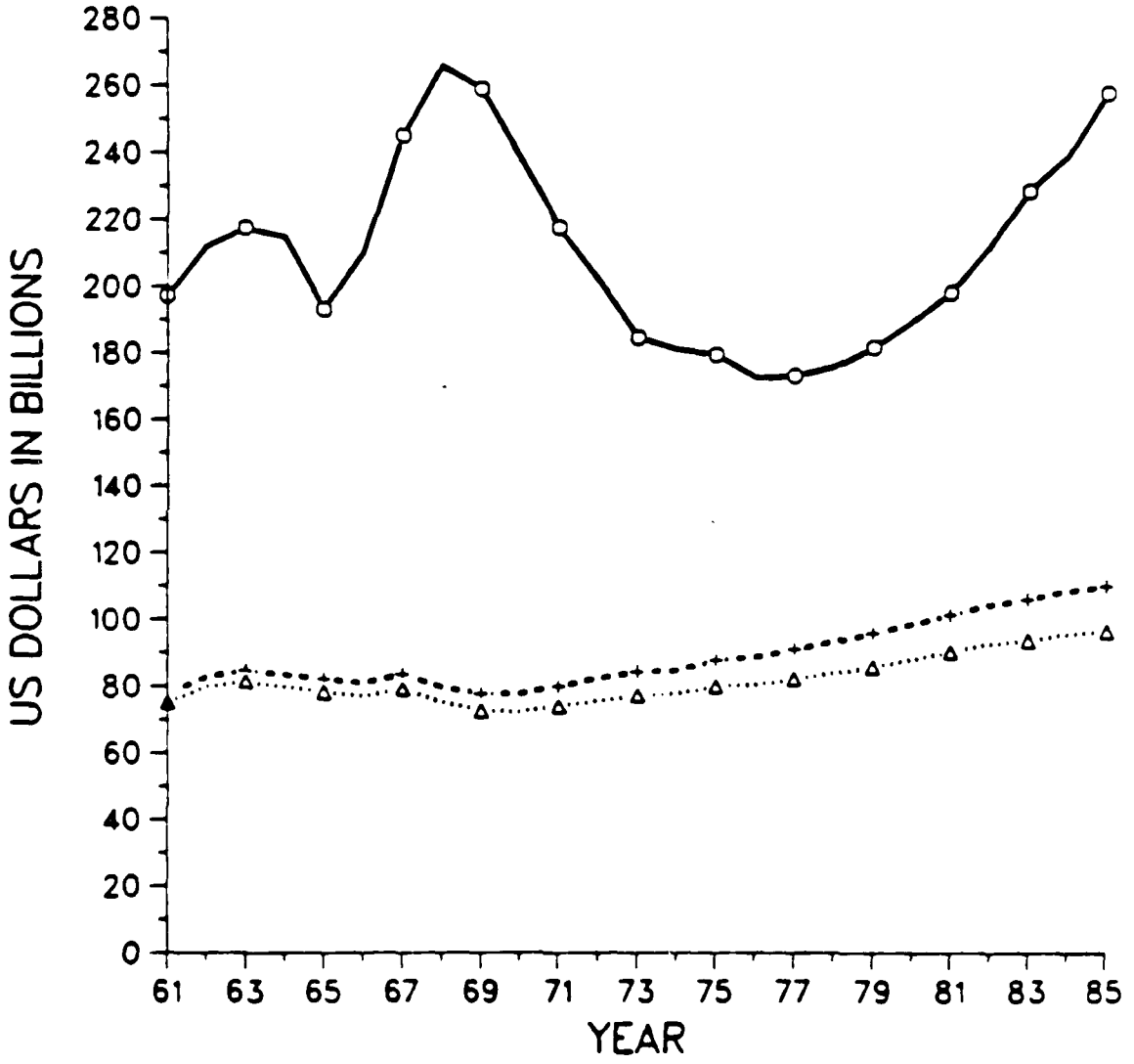
Germany, for example, feels that its economic assistance to Berlin and support for the Berlin garrisons, which are not considered "defense expenditures" under NATO's accounting rules, contribute significantly to the Alliance defense effort in the broadest sense of the word. If included, these expenditures would increase Germany's defense spending total for 1985 by around 25 percent.

Defense-related costs, such as real estate provided for forward-deployed forces and some host nation support expenditures, also are not counted as defense spending under the NATO definition. The current market value of the real estate made available to allied forces stationed in Germany, for example, has been estimated at around $16 billion.

1/ All of these are addressed in Appendix A.
2/ One of these—defense spending by resource category—is addressed in Appendix A.
3/ One of these—per capita defense spending—is addressed in Appendix A.

CHART II-5

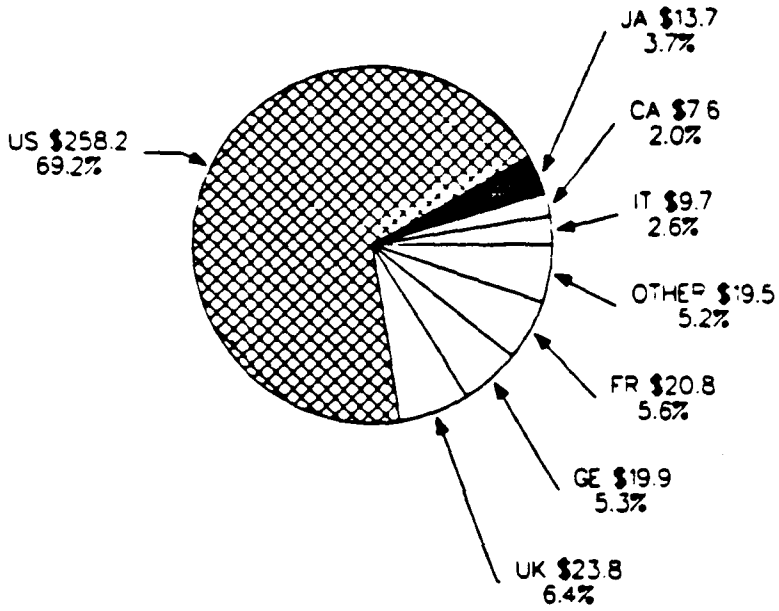
TOTAL DEFENSE SPENDING (FISCAL YEAR)
US DOLLARS IN BILLIONS
(1985 CONSTANT DOLLARS – 1985 EXCHANGE RATES)



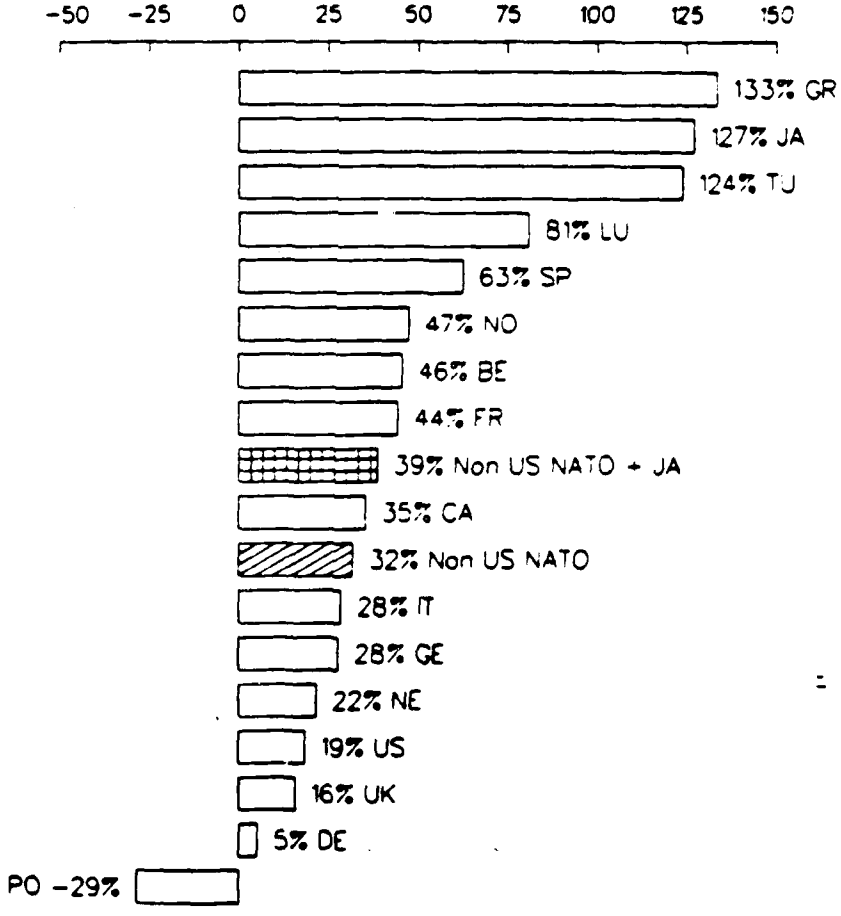
Based on NATO definition of defense spending. Excludes Spain

CHART II-6

TOTAL DEFENSE SPENDING (FY)
(1985 CONSTANT DOLLARS IN BILLIONS – 1985 EXCHANGE RATES)
1985
TOTAL NATO AND JAPAN: $373.2



% CHANGE IN TOTAL DEFENSE SPENDING (1971 VS 1985)



Some European nations, especially Germany, incur additional expenses by hardening or building redundancy into civil projects with potential military applications. Examples include roads, pipelines, and civilian communication systems. Many of these expenditures cannot be reported under NATO's defense accounting criteria.

The value of civilian assets (e.g., trucks) that are designed for military use in time of war likewise cannot be counted as defense expenditures. Yet these assets contribute directly to NATO's and Japan's military capabilities and reduce the amount these nations and the United States might otherwise have to spend on defense. This is particularly the case for Germany, which has undertaken a significant program to register civilian assets that would be used by the Bundeswehr and allied forces in wartime.

It is also important to recognize that identical defense expenditures by two nations will not necessarily translate into identical amounts of military capability. Since a number of our allies are able to man their forces at a lower cost than we can, traditional spending comparisons (such as those displayed in the accompanying charts) may understate the size and value of allied forces vis-a-vis our own.

Together, the NATO nations and Japan spent some $373 billion on defense in 1985. The United States supplied $258 billion, or 69 percent, of that amount. As Chart II-5 shows, US defense spending in real terms declined during most of the 1970s, but then turned upward toward the end of the decade. The net change in US and allied shares between 1971 and 1985 reflects a 32 percent real increase in the defense budgets of the non-US NATO members as a group, 127 percent real growth for Japan, and a real increase of 19 percent in US defense spending.

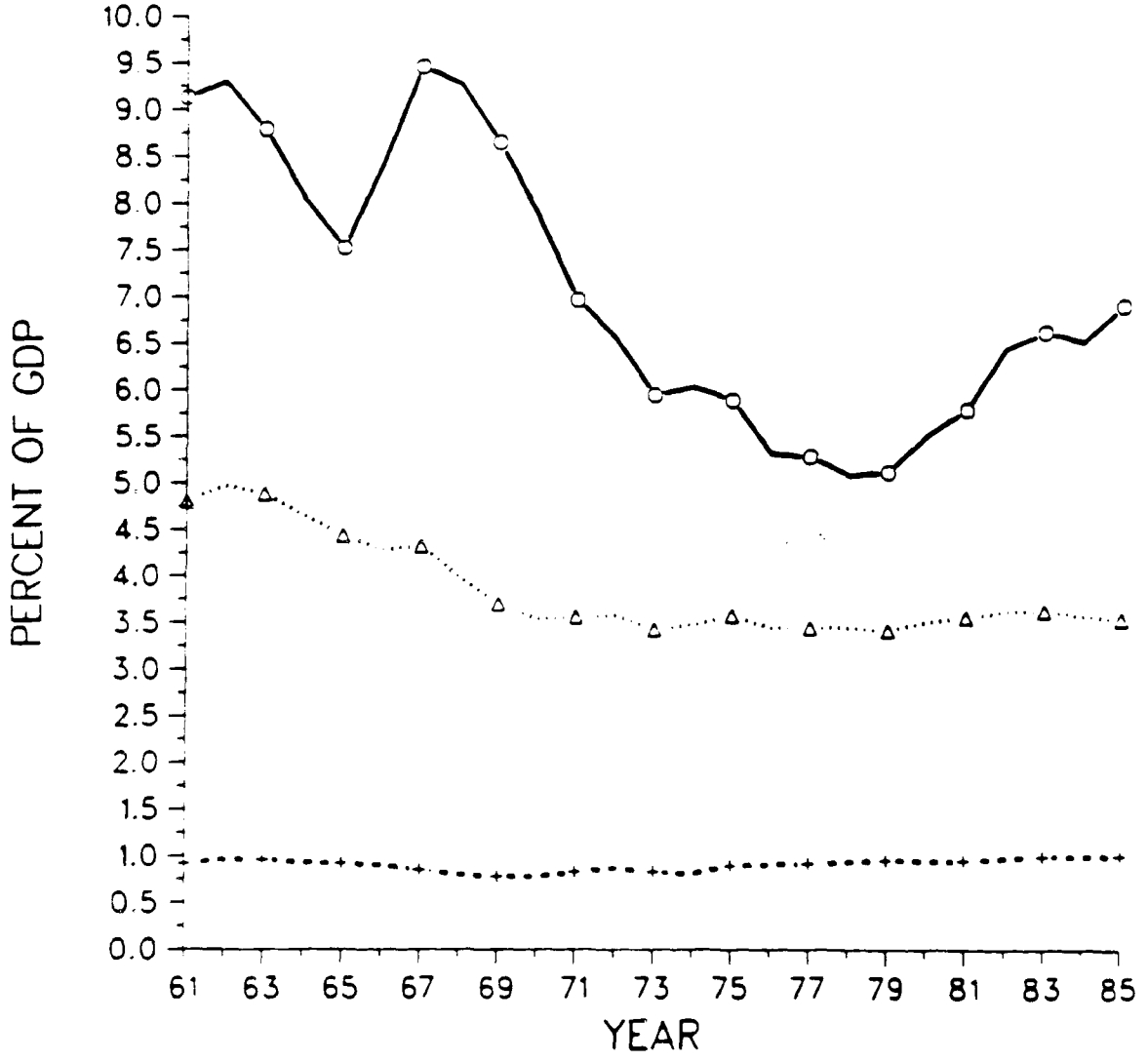
PERCENTAGE OF GROSS DOMESTIC PRODUCT (GDP) ALLOCATED TO DEFENSE

This is probably the most popular of all the indicators of defense burdensharing. Among its virtues are that it is easy to compute, it is based on data that usually are readily available, and it is easy to explain and understand (Chart II-7).

When used as one of a variety of indicators, and with an understanding of some of its shortcomings, the GDP share indicator can provide valuable insights. Unfortunately, there is often a tendency to view it as the "be-all and end-all" of burdensharing measures and, thus, to rely on it to the exclusion of other measures. Another problem is the tendency of some users of this measure to assume--explicitly or implicitly--that "equitable" burdensharing requires all nations to devote an equal share of GDP to defense. An opposing view sometimes voiced within the Alliance is that it is more equitable, and in the collective interest of the Free World, for nations with the strongest economies to devote a proportionately larger share of their wealth to defense, thereby allowing weaker members to allocate proportionately more of their limited resources to basic domestic programs. This is analogous to the graduated income tax used by the United States and many other nations in apportioning domestic revenue burdens.

Finally, it is important to recognize that all of the factors discussed in the previous section that render total defense spending an imperfect indicator of a nation's defense effort also apply to defense spending as a share of GDP. That is, the measure does not take into account efforts that are not directly reflected in defense budgets.

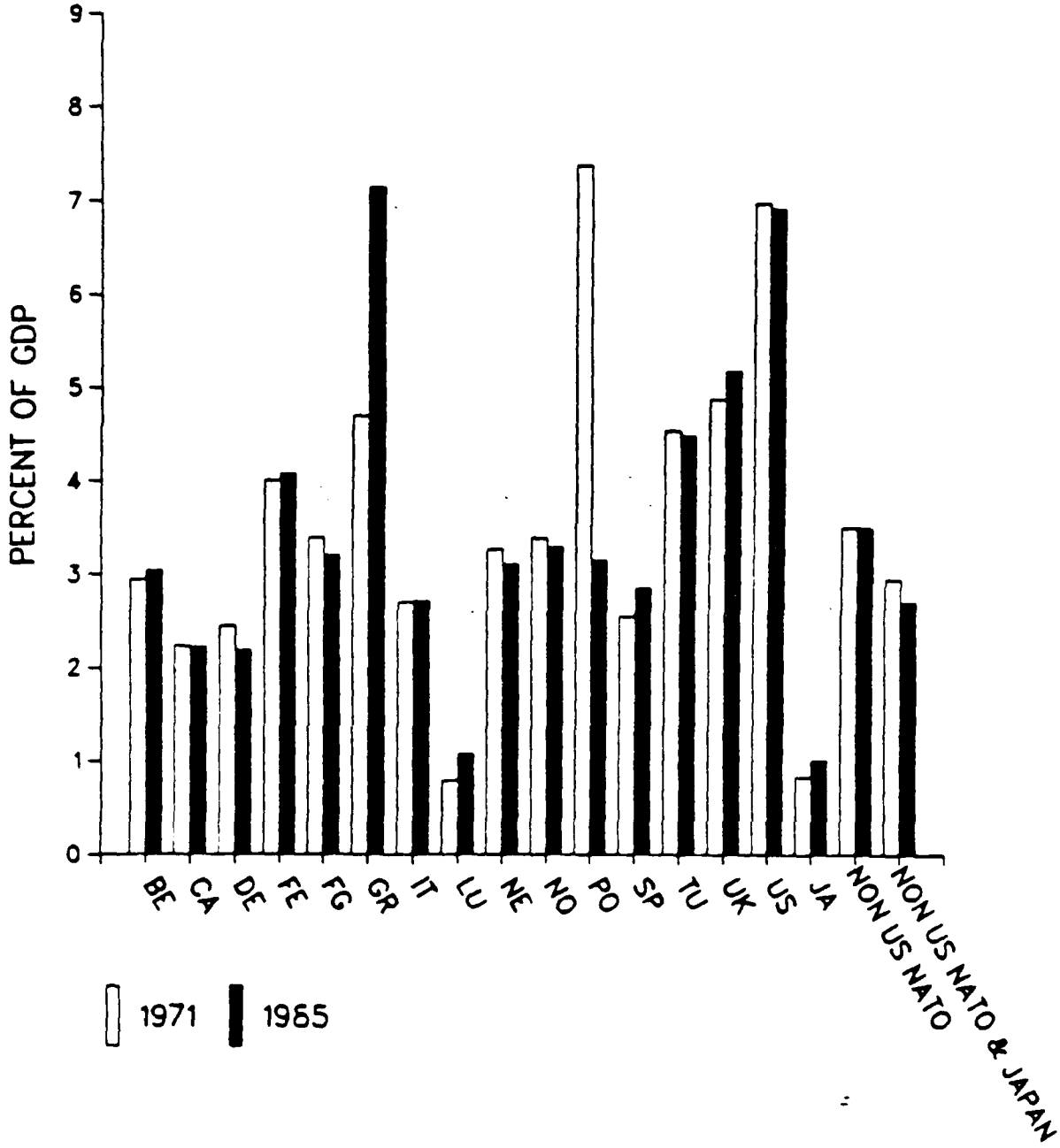
TOTAL DEFENSE EXPENDITURES (CY) AS A PERCENTAGE OF GROSS DOMESTIC PRODUCT



Based on NATO definition of defense spending. Excludes Spain

CHART II-8

TOTAL DEFENSE SPENDING (CY) AS A PERCENT OF GDP



Greece, with a 1985 percentage of 7.1, allocates the highest share of GDP to defense among the 16 nations surveyed here (Chart II-8). The United States ranks second, with 6.9 percent, while the United Kingdom's 5.2 percent share places it third, followed by Turkey (4.5 percent) and France (4.1 percent). All of the remaining nations have shares of 3.3 percent or less. The weighted average for the non-US nations combined is 3.5 percent if only the NATO members are considered and 2.7 percent if Japan is included in the calculation.

The obvious discrepancy between the US share and the shares of many of the allies can be attributed, in part, to our role as a nuclear superpower and our worldwide interests and responsibilities. The very low Japanese percentage and relatively modest German percentage follow partly from political and constitutional constraints (on defensive efforts for the Japanese and on overall force size for the Germans).

An examination of trends indicates that the weighted-average percentage for all of the non-US NATO nations combined declined steadily during the 1960s. Since the early 1970s, allied defense spending has generally kept pace with economic growth, resulting in a level trend in share of GDP devoted to defense during 1971-85. By comparison, the US GDP percentage fell around 30 percent between the early 1970s and 1979, but turned sharply upward in 1980. The 1970s decline cannot be attributed solely to our Southest Asia phase-down inasmuch as our percentage in the early 1960s, prior to the Vietnam buildup, was two percentage points above the early 1970s level (9.0 percent versus around 7.0).

TOTAL ACTIVE-DUTY MILITARY AND CIVILIAN MANPOWER

Charts II-9 and II-10 show the peacetime active-duty military and civilian manpower resources allocated to defense by each nation. Charts II-11 and II-12 provide similar breakouts for peacetime active-duty military manpower only.

Including civilian defense manpower helps eliminate comparability problems stemming from different national policies on the use of civilians for military tasks. Accordingly, the discussion below focuses on the combined military and civilian figures.

Since this indicator does not include reserve manpower, it tends to understate the efforts of nations, such as Norway, that have structured their forces around a small cadre of active-duty personnel that can be rapidly fleshed out (by drawing on a large pool of trained reservists) in an emergency.

Variations indicated by this measure can be attributed, among other things, to differences in (1) active/reserve policies, (2) the cost of manpower, and (3) the extent to which programs emphasize labor-intensive forces (e.g., ground units) versus capital-intensive ones (navies and air forces).

A review of the trends indicates that US manpower levels declined by more than 20 percent between 1971 and 1978, but then increased by about 10 percent between 1978 and 1985—for a net change of minus 12 percent over the 1971-85 period. The total end strength of the non-US NATO allies remained practically unchanged during the early 1970s, but declined by around 5 percent between 1974 and 1976, reflecting, in part, reductions in British, Italian, and Portuguese manpower that were partially offset by increases in Turkish manpower. During 1976-84, the trend turned upward, with the non-US NATO allies (less Spain) registering an increase of around 4 percent—reflecting a growth in Turkish and Italian manpower levels, a modest decline in the number of British personnel, and generally steady levels for most of the other allies. (Data on Spanish

forces for prior years were not available for this report.) As a result of these changes in non-US NATO manpower levels, and a 3 percent increase in Japan's 1971-85 level, the US share of the NATO and Japan total (less Spain) fell from 46 percent in 1971 to 43 percent in 1985.

TOTAL ACTIVE-DUTY MILITARY AND CIVILIAN MANPOWER AND COMMITTED RESERVES

Chart II-13 reflects the active-duty military and civilian manpower figures recorded in the previous charts, plus an estimate of "committed reserves" (i.e., reservists with assignments after mobilization).

Including committed reserves, the NATO nations and Japan together have over 13 million people under arms and in their civilian defense establishments. Of that amount, non-US nations account for 8.2 million (or 62 percent of the total), while the United States contributes about 5.1 million.

Most of the non-US NATO nations supply larger shares of the NATO and Japan total under this measure than they do under the "active military and civilian" measure used in the previous section.

DEFENSE MANPOWER AS A PERCENTAGE OF POPULATION

This widely used and generally well-understood indicator provides a basis for comparing the defense manpower contributions of nations, taking into account differences in the size of their populations. The percentages reported below were derived using combined military and civilian manpower levels (Charts II-14 and II-15). For purposes of comparison, figures for military manpower only are also provided (Charts II-16 and II-17).

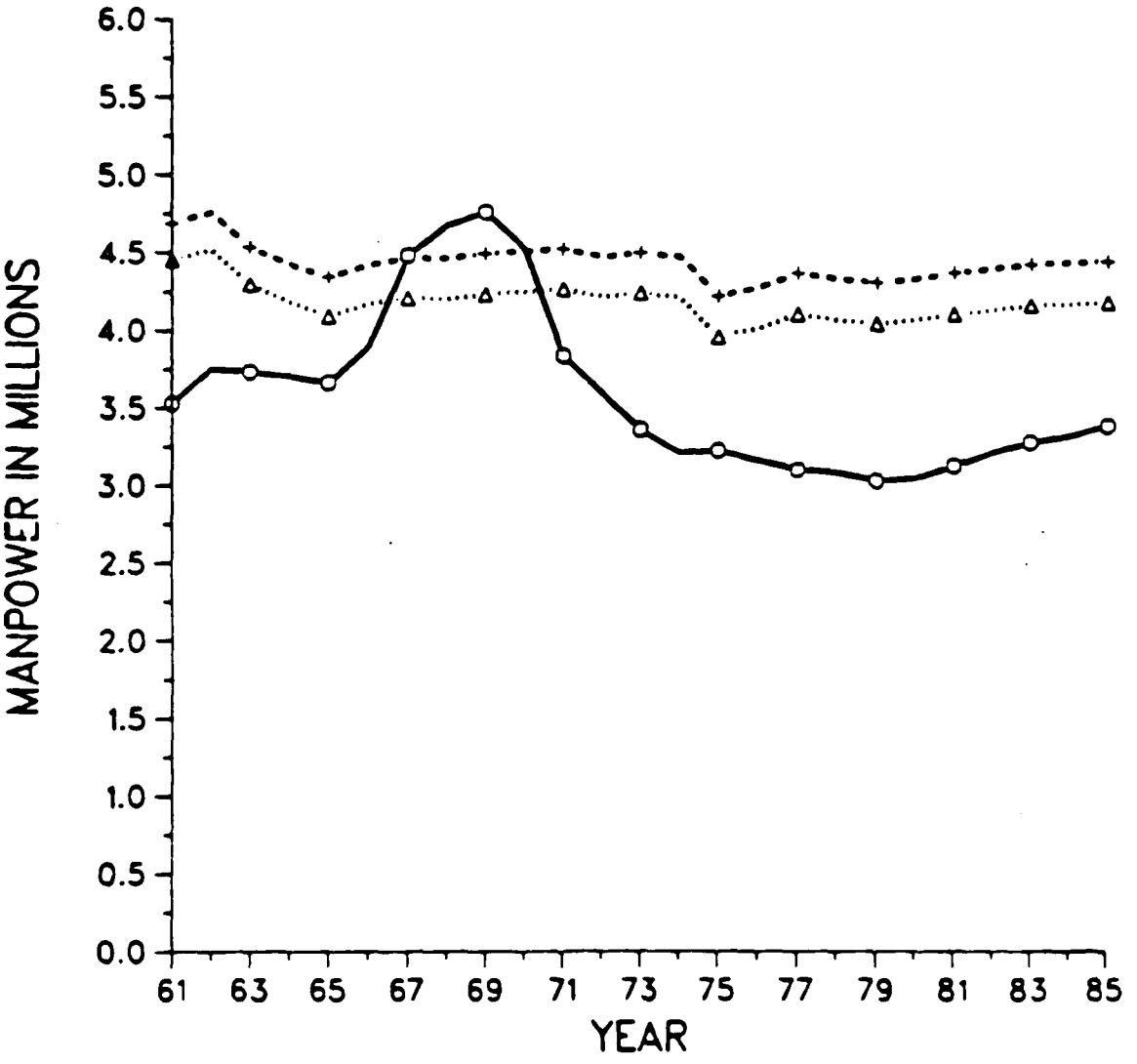
Active-Duty Military and Civilian Manpower as a Percentage of Population (Charts II-14 and II-15). This indicator shows a wide variation among nations in 1985, ranging from a high of 2.4 percent and 1.7 percent for Greece and Turkey, respectively, to 0.4 percent and 0.2 percent for Luxembourg and Japan. The United States ranks third, with 1.4 percent, followed by Spain (1.4 percent) and France (1.3 percent). Germany, the Netherlands, Italy, Belgium, Denmark, and the United Kingdom all fall below the non-US NATO average of 1.2 percent. In reviewing Germany's relatively low position, it is important to remember that the size of the German active-duty forces is limited by postwar treaties.

An examination of the trends reveals a 28 percent decline in the US share between 1971 and 1979, followed by a small increase (of around 5 percent) between 1979 and 1985—resulting in a 23 percent net decline for 1971-85. The weighted-average percentage for all of the non-US NATO nations combined fell approximately 10 percent between 1971 and 1975, but since the mid-1970s has remained generally level. The figures for Japan follow a pattern similar to that of the non-US NATO allies.

The United Kingdom's 25 percent decline is largely due to a drawdown in British forces outside of Europe during the late 1960s and early 1970s, whereas Portugal's sharp decrease—which caused its ranking to fall from first in 1971 to seventh in 1985—can be attributed to its massive withdrawal from Africa during the early 1970s.

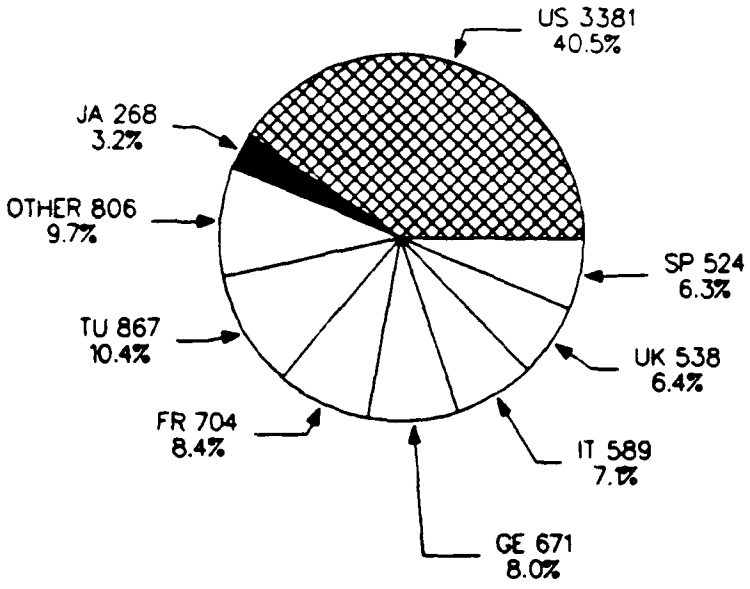
Active-Duty Military and Civilian Manpower and Committed Reserves as a Percentage of Population (Chart II-18). The results change considerably for several nations when reserve manpower is included in the calculation. By this measure, Norway and Denmark rank first and sixth (with percentages of 5.9 and

TOTAL ACTIVE DUTY MILITARY AND CIVILIAN MANPOWER (IN MILLIONS)

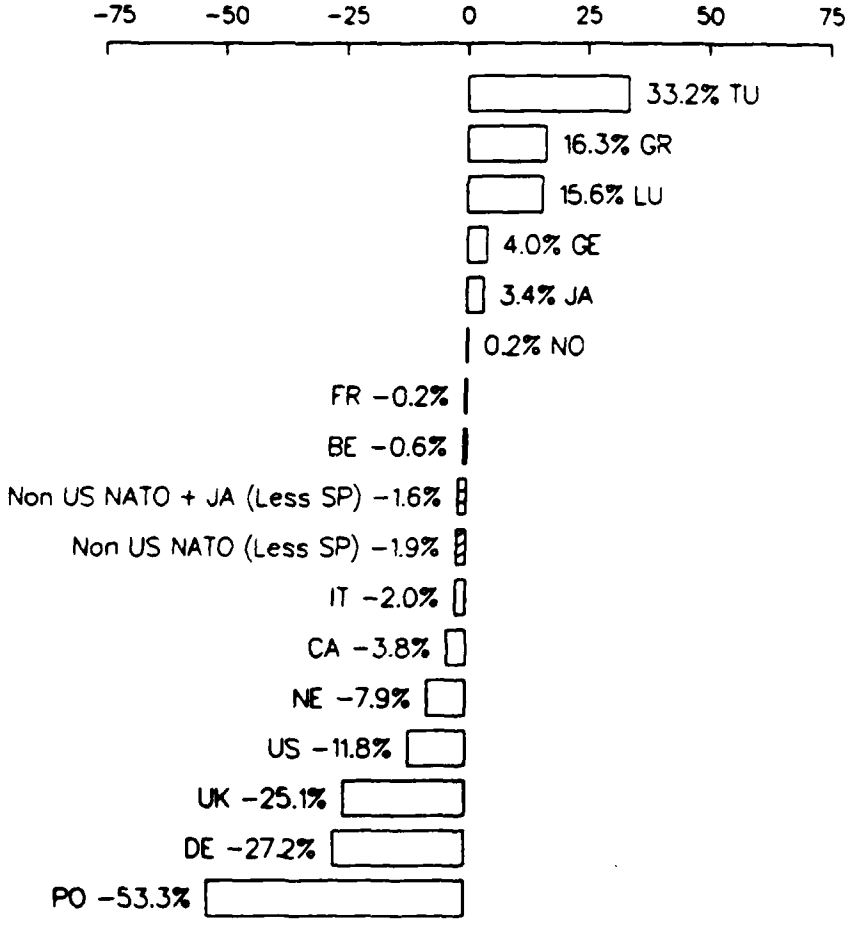


Excludes Spain

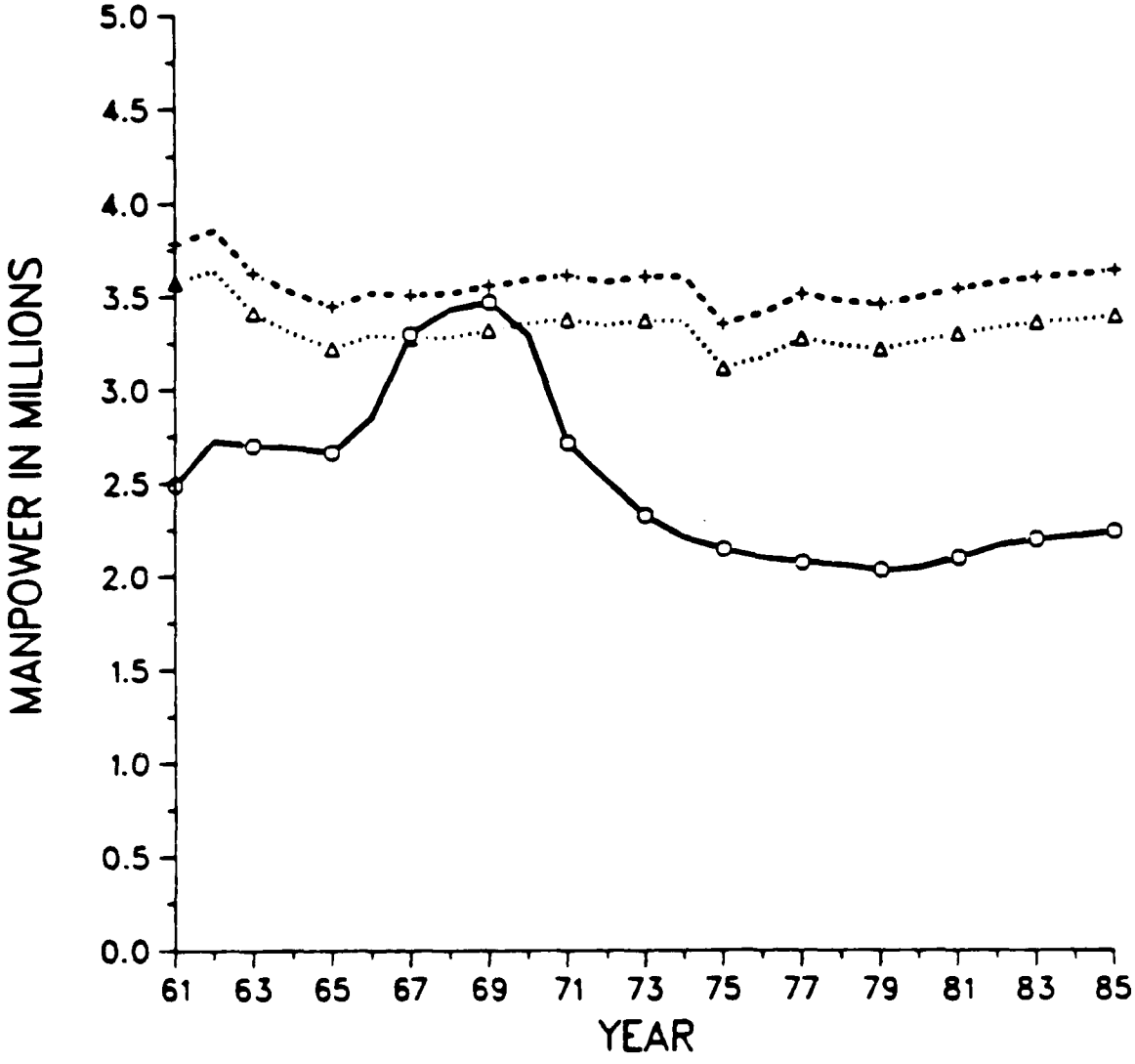
TOTAL MILITARY AND CIVILIAN MANPOWER
(IN THOUSANDS)
1985
TOTAL NATO AND JAPAN: 8348



% CHANGE IN TOTAL MILITARY AND CIVILIAN MANPOWER (1971 VS 1985)



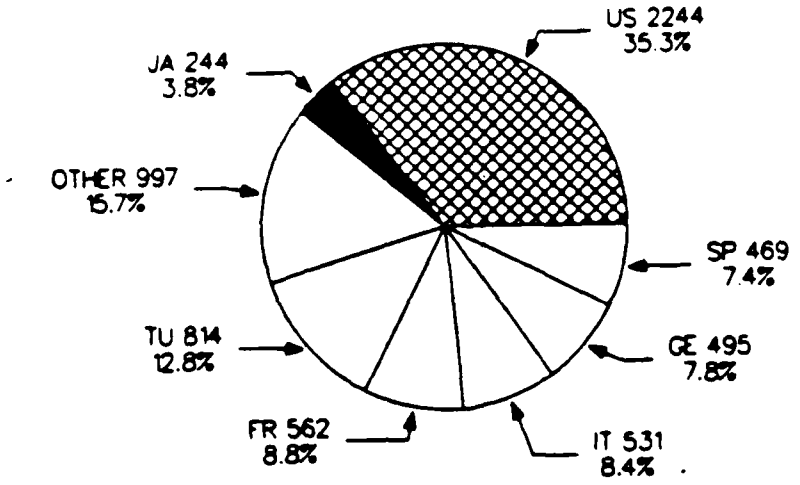
TOTAL ACTIVE DUTY MILITARY MANPOWER (IN MILLIONS)



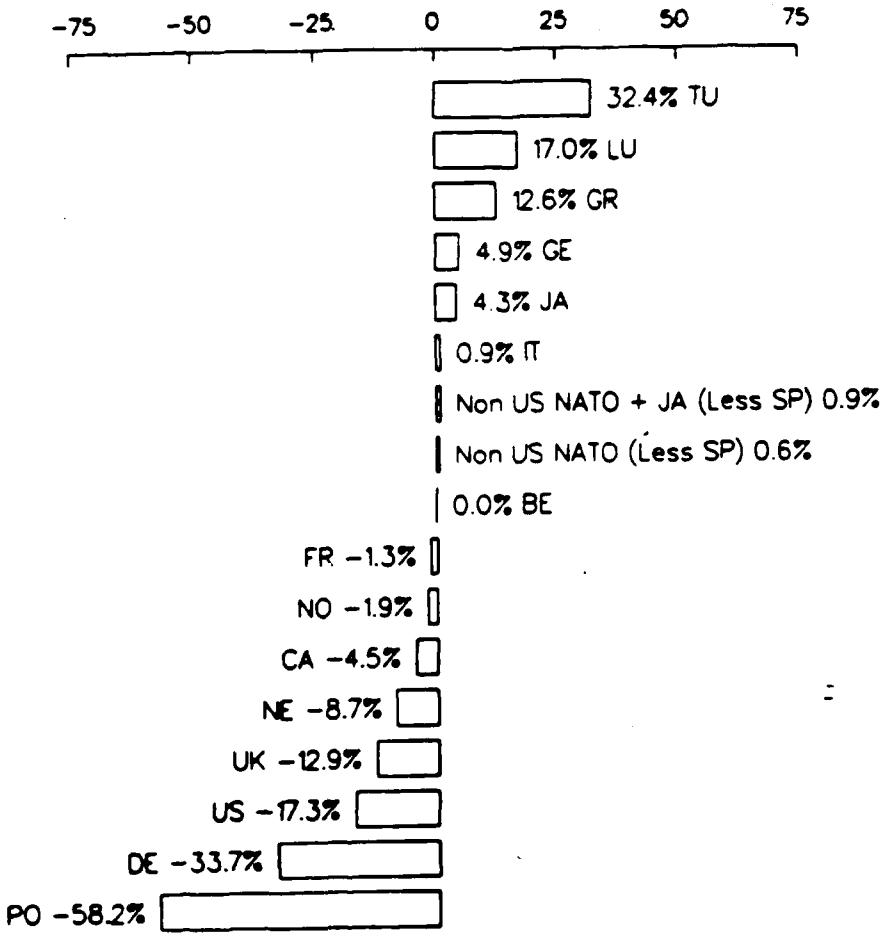
Excludes Spain

CHART II-12

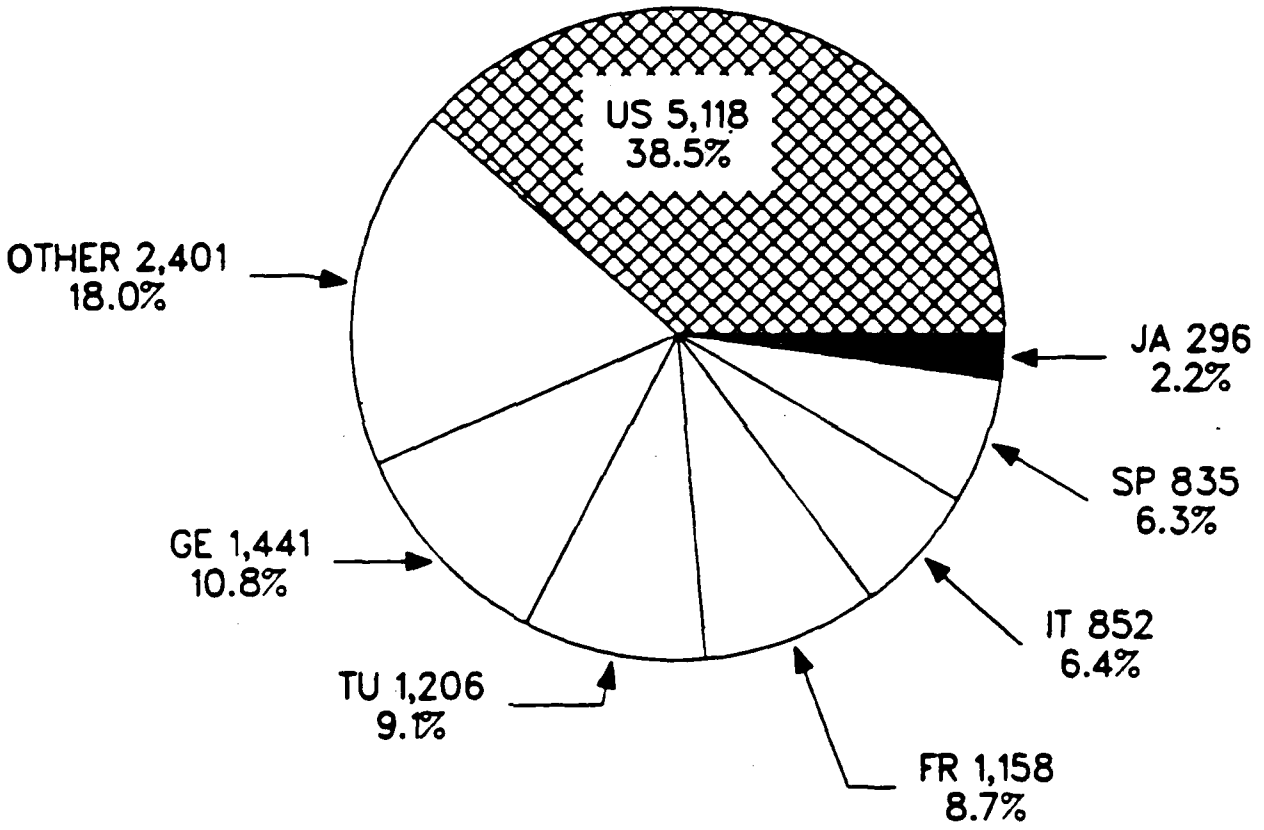
TOTAL MILITARY MANPOWER
(IN THOUSANDS)
1985
TOTAL NATO AND JAPAN: 6356



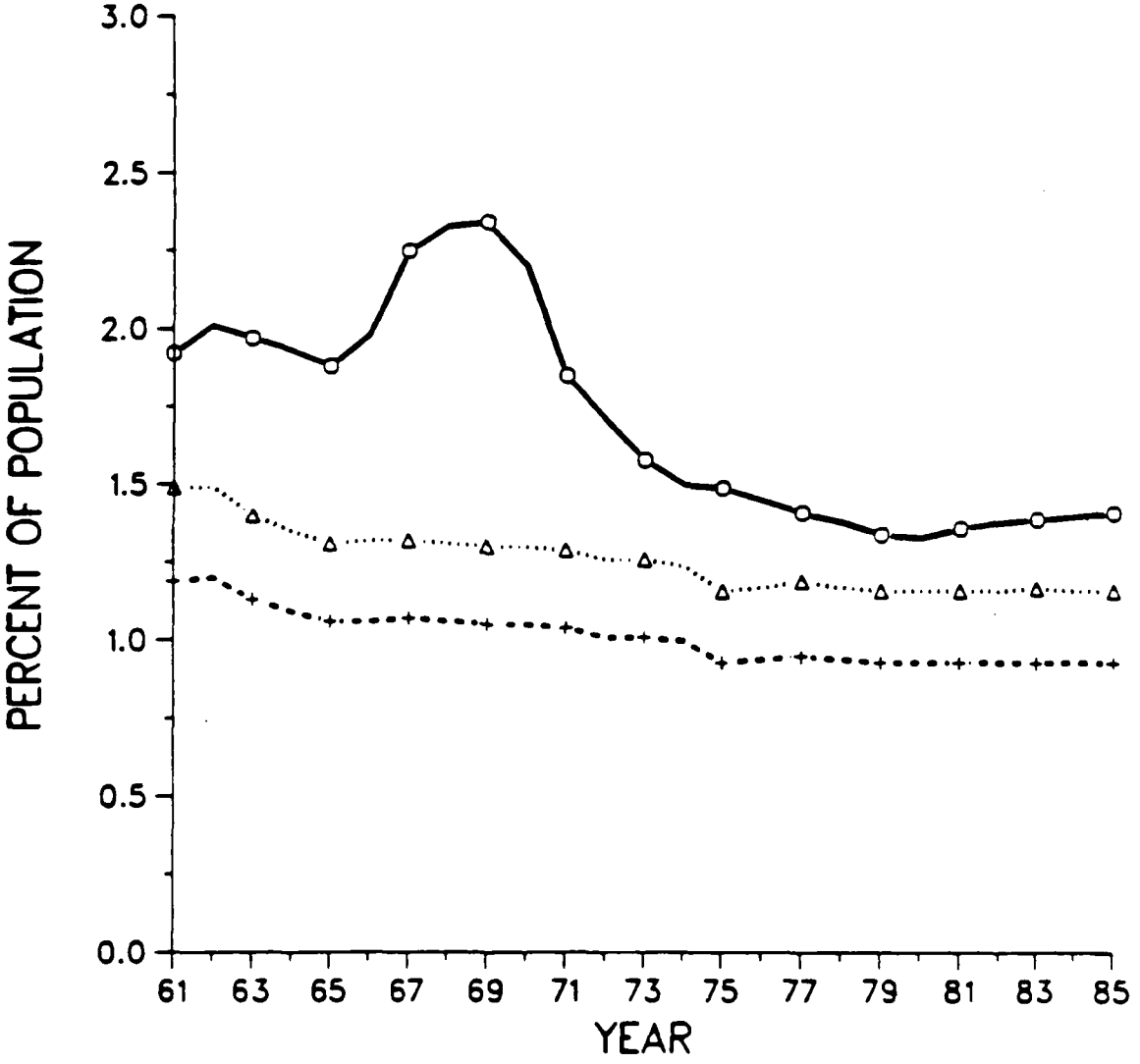
% CHANGE IN TOTAL MILITARY MANPOWER (1971 VS 1985)



TOTAL MILITARY AND CIVILIAN MANPOWER AND COMMITED RESERVES (IN THOUSANDS) 1985 TOTAL NATO AND JAPAN – 13,307



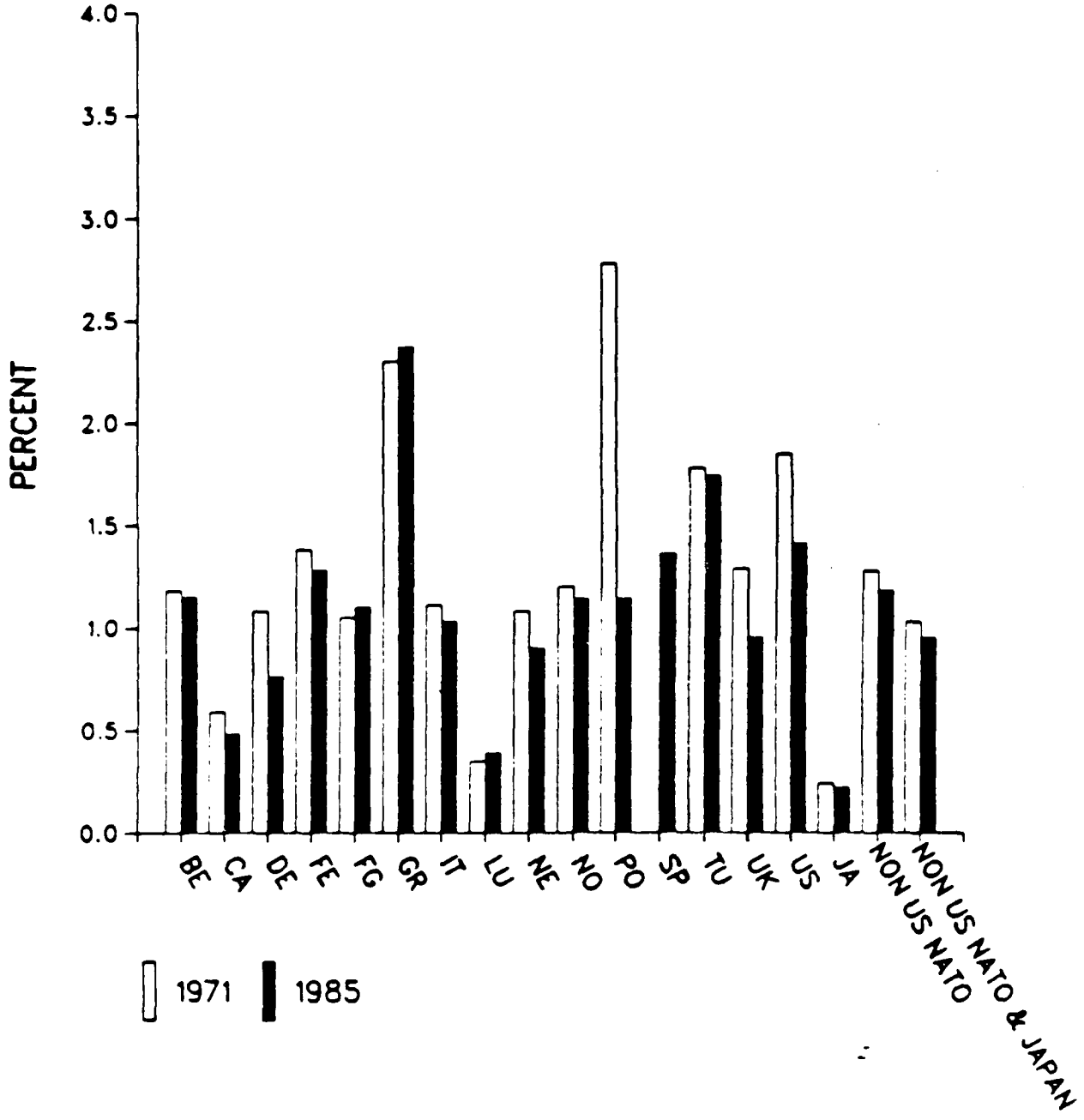
TOTAL MILITARY AND CIVILIAN MANPOWER AS A % OF TOTAL POPULATION



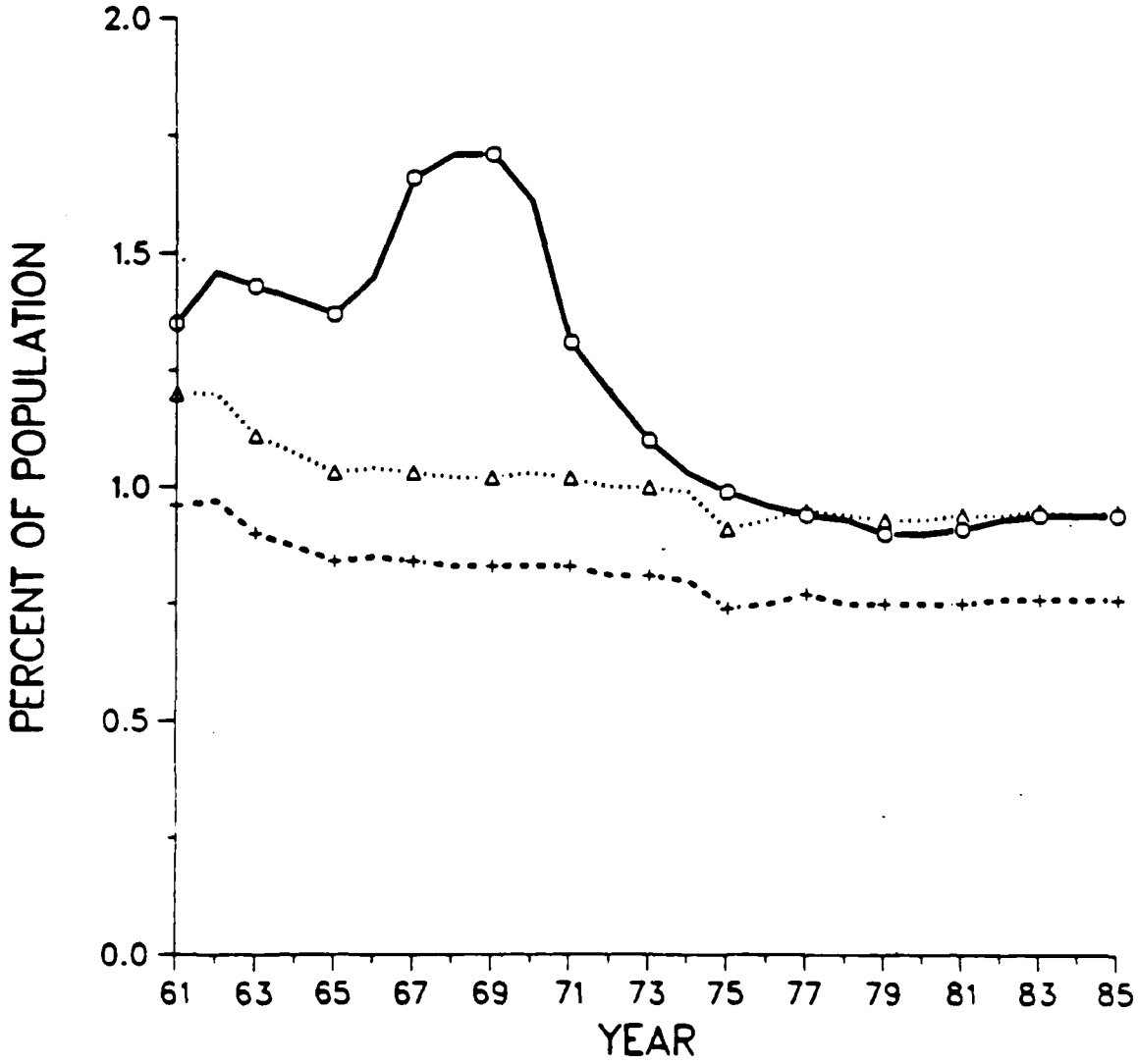
Excludes Spain

CHART II-15

MILITARY AND CIVILIAN MANPOWER AS A PERCENT OF POPULATION



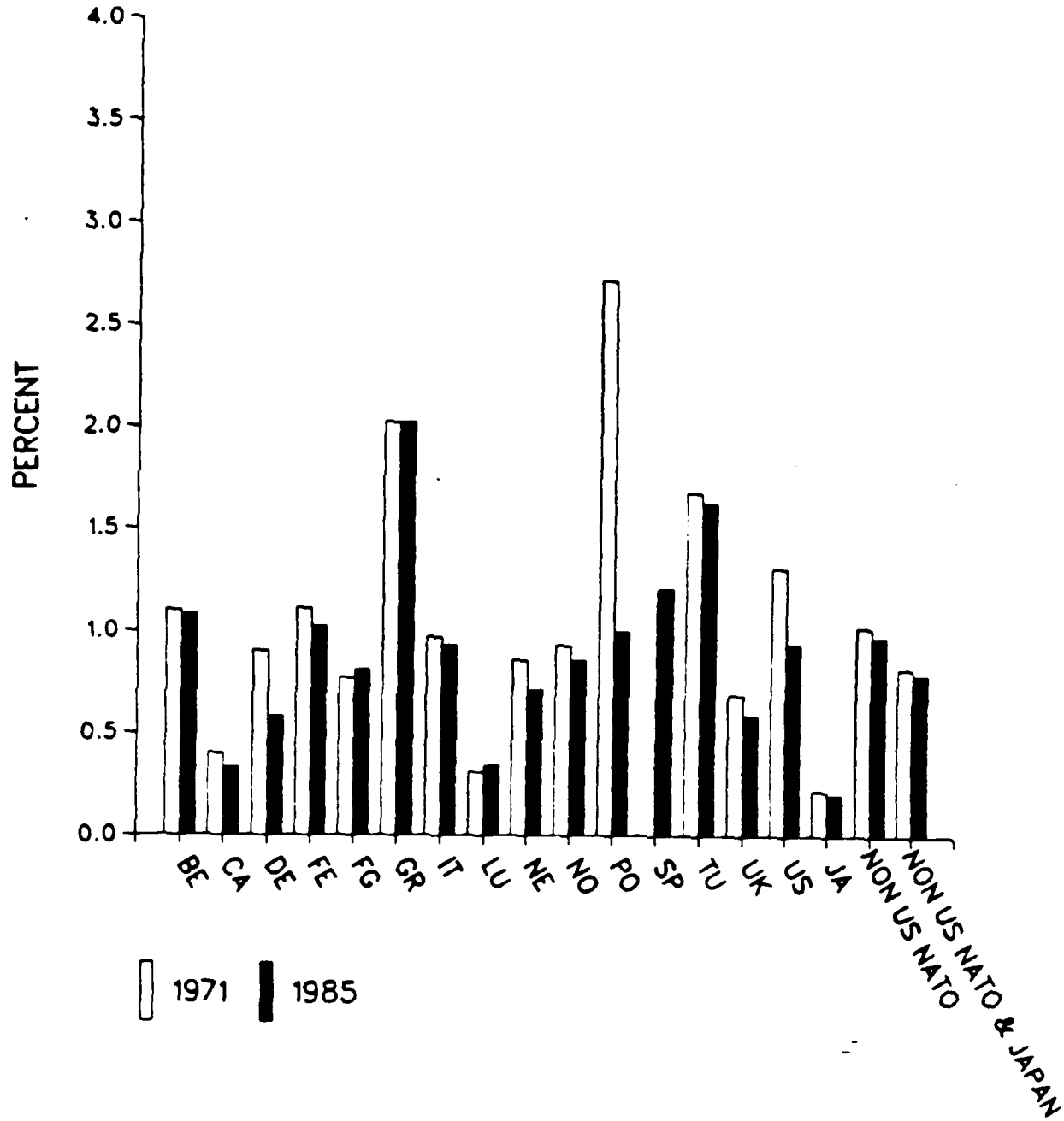
TOTAL ACTIVE DUTY MILITARY MANPOWER AS A % OF TOTAL POPULATION



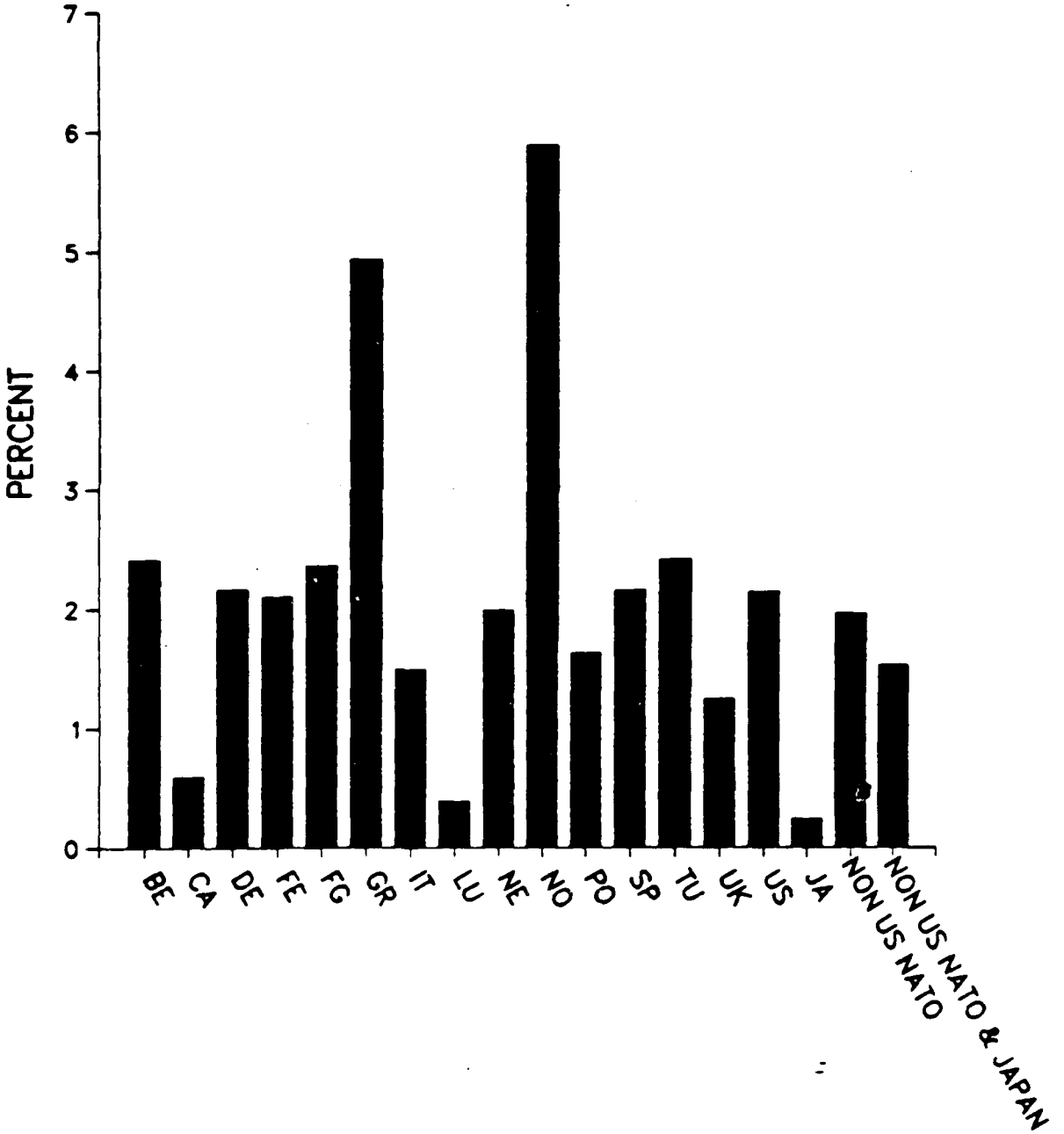
Excludes Spain

CHART II-17

MILITARY MANPOWER AS A PERCENT OF POPULATION



MILITARY AND CIVILIAN MANPOWER AND COMMITTED RESERVES AS A PERCENT OF POPULATION 1985



2.2, respectively), as against ninth and thirteenth if only active manpower is considered.

OUTPUT-ORIENTED INDICATORS (GROUND, NAVAL, AND AIR FORCES)

It is important to emphasize that there are no single, comprehensive output indicators that fully reflect all of the factors that determine military capability. The material presented here is intended to provide a thumbnail sketch of each country's force contributions by highlighting a few key static indicators that are widely accepted within the defense analysis community. The data used for these displays are based largely on US estimates. They incorporate responses to the NATO Defense Planning Questionnaire from those nations that participate in NATO's coordinated defense planning process.

Ground Forces

Ground Forces Division Equivalent Firepower (DEF) Share. The DEF is an indicator of effectiveness of ground forces based on the quantity and quality of their major weapons. This measure draws on the static assessment techniques used in the Armored Division Equivalent (ADE) methodology with additional improvements made to portray more accurately NATO equipment modernization. The DEF methodology—which is widely used within DoD and NATO for ground forces comparisons—provides a more complete picture of combat effectiveness than do simple counts of combat units and weapons. The measure does not, however, consider such factors as ammunition availability, logistical support, training, communications, and morale.

As Chart II-19 shows, the non-US nations combined account for 61 percent of the DEFs of the NATO members and Japan, while the United States supplies the remaining 39 percent. The allied contribution drops to 57 percent if Japan is excluded.

We have also examined current holdings of the NATO nations in two categories of ground force equipment—main battle tanks and artillery. The most striking feature of this comparison is the large total volume of equipment maintained by the non-US nations as a whole relative to the US holdings. The holdings of all of the non-US nations combined exceed those of the United States by 20 percent for tanks and by 108 percent for artillery.

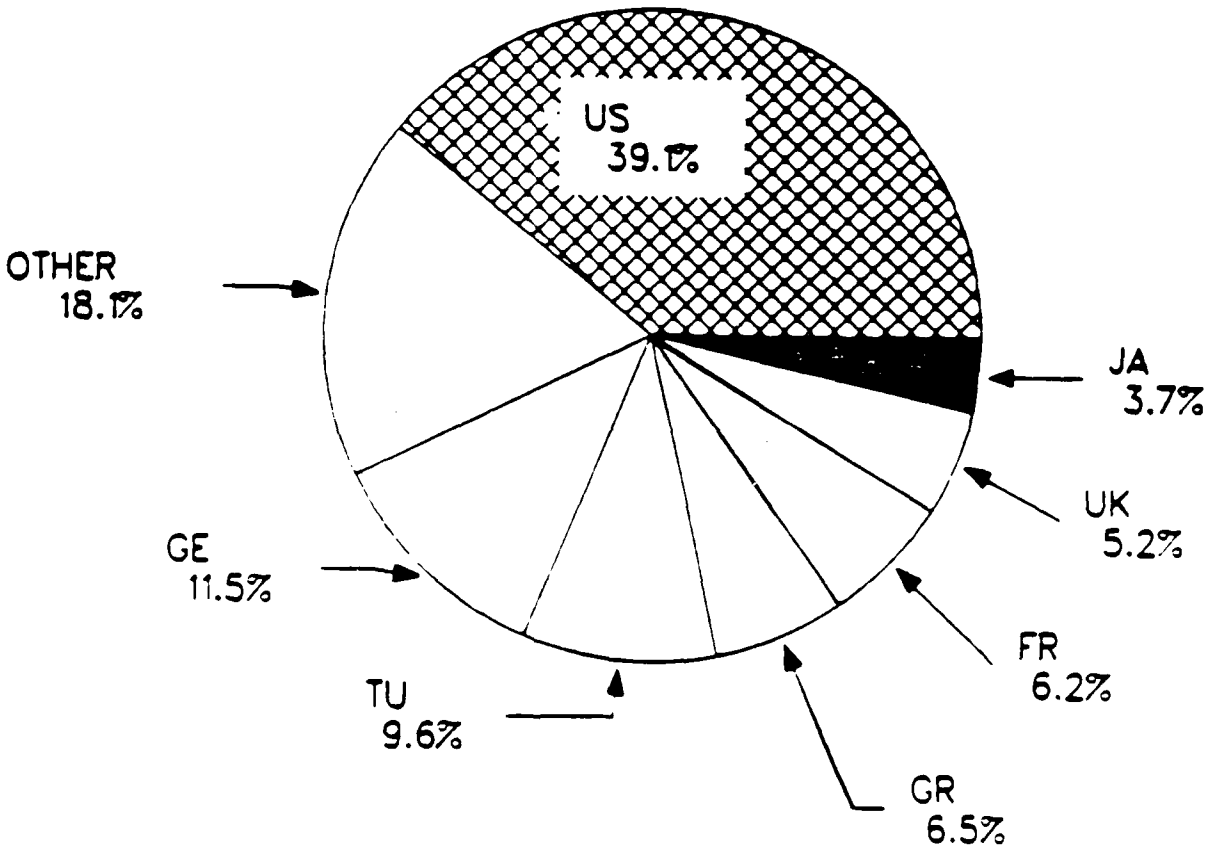
Naval Forces Tonnage

Tonnage is a static measure of aggregate fleet size. For most purposes, it provides a more meaningful basis for comparison than do simple tallies of ships. The use of tonnage alone as an indicator does not, however, provide any indication of the number of weapons aboard ships, or of the weapons' effectiveness or reliability. Nor does the measure take account of the less tangible ingredients of combat effectiveness, such as personnel training and morale. Consequently, tonnage data should be considered as giving an indication of naval potential.

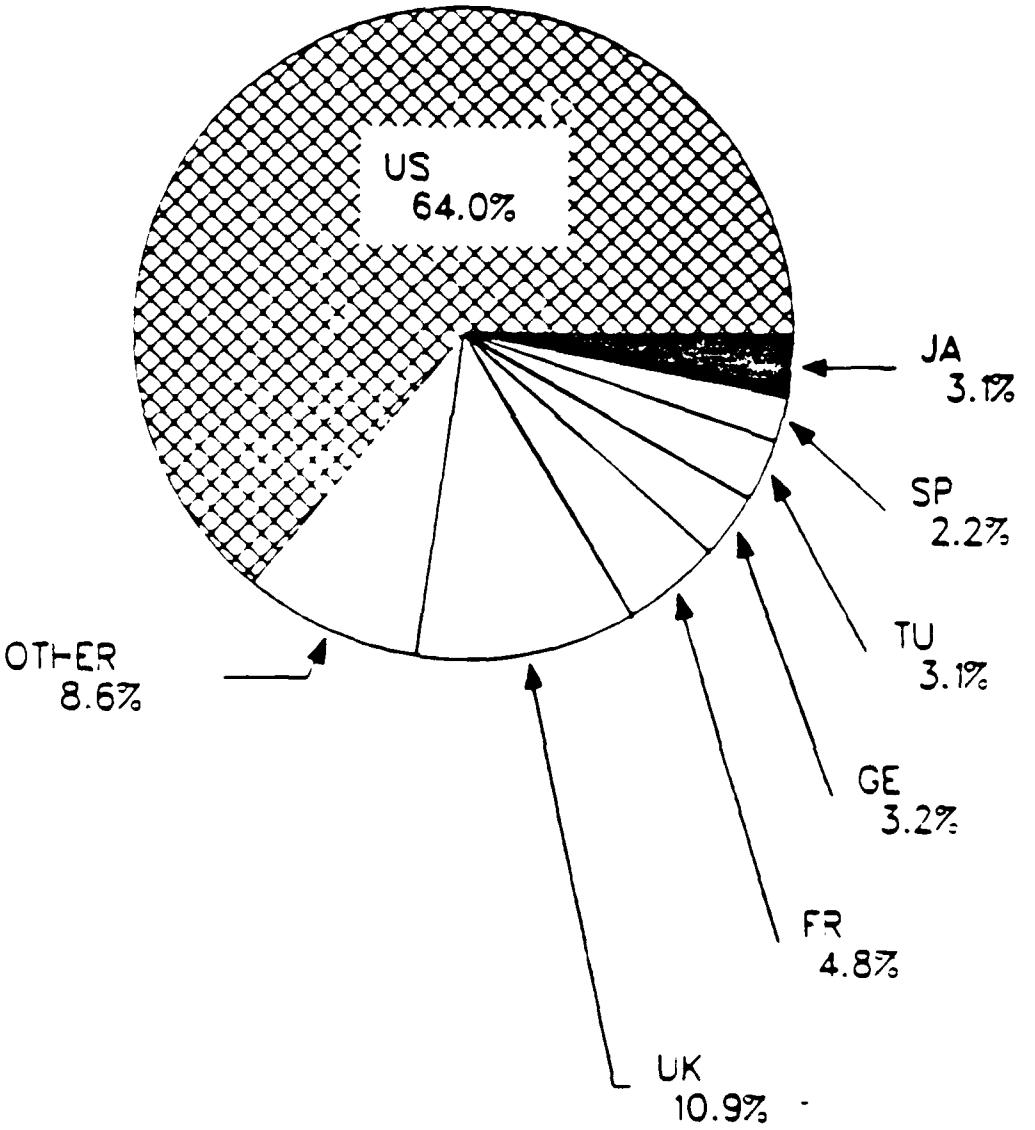
Chart II-20 shows the aggregate tonnage of the US, non-US NATO, and Japanese navies, excluding strategic ballistic submarines. The US contribution is 64 percent, compared with 33 percent for the non-US NATO allies and 36 percent for the non-US NATO nations and Japan.

CHART II-19

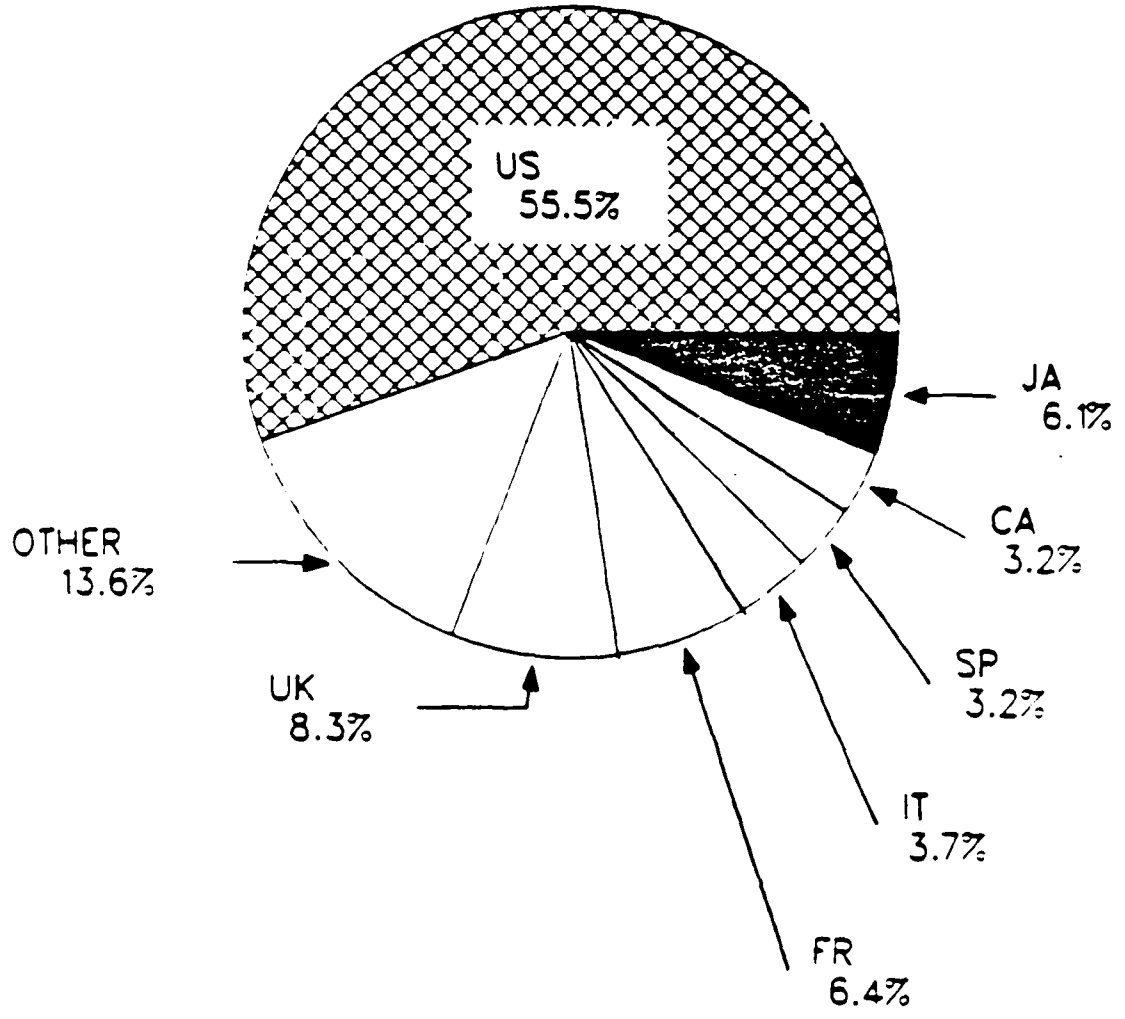
DIVISION EQUIVALENT FIREPOWER (DEF)
1985
TOTAL NATO AND JAPAN



TOTAL NAVAL FORCE TONNAGE
(ALL SHIPS LESS STRATEGIC SUBMARINES)
(IN THOUSANDS)
1985 – TOTAL NATO AND JAPAN



TOTAL NAVAL FORCE TONNAGE (PRINCIPAL SURFACE COMBATANTS) (IN THOUSANDS) 1985 – TOTAL NATO AND JAPAN



It should be noted these data include for the US some tasks that allied navies do not customarily perform (e.g., fleet support, sealift, and amphibious operations). When only major surface combatants—the ship types more closely associated with the primary roles of allied navies—are included, the picture changes somewhat (see Chart II-21). By this measure, the US share declines to 56 percent, compared with 38 percent for the non-US NATO nations (and 44 percent, if Japan is included).

An analysis of the modernization programs being undertaken by the US and allied navies shows that the amount of "first-generation" tonnage recorded in the non-US NATO column is heavily influenced by the aging Greek and Turkish fleets, which together contribute about one-third of the tonnage in that subcategory. When just surface combatants are counted, Canada, Greece, and Turkey contribute slightly more than 50 percent of the nonmodernized tonnage in the non-US NATO fleets. That picture should change over the next decade, however, as all three countries have ambitious modernization programs under way.

France and Germany are also in the process of replacing those portions of their fleets built in the 1950s and early 1960s. As a rule, the allies tend to keep their ships—especially principal surface combatants, support, and amphibious vessels—longer than the United States does, replacing them only when block obsolescence affects several classes.

Air Force Tactical Combat Aircraft

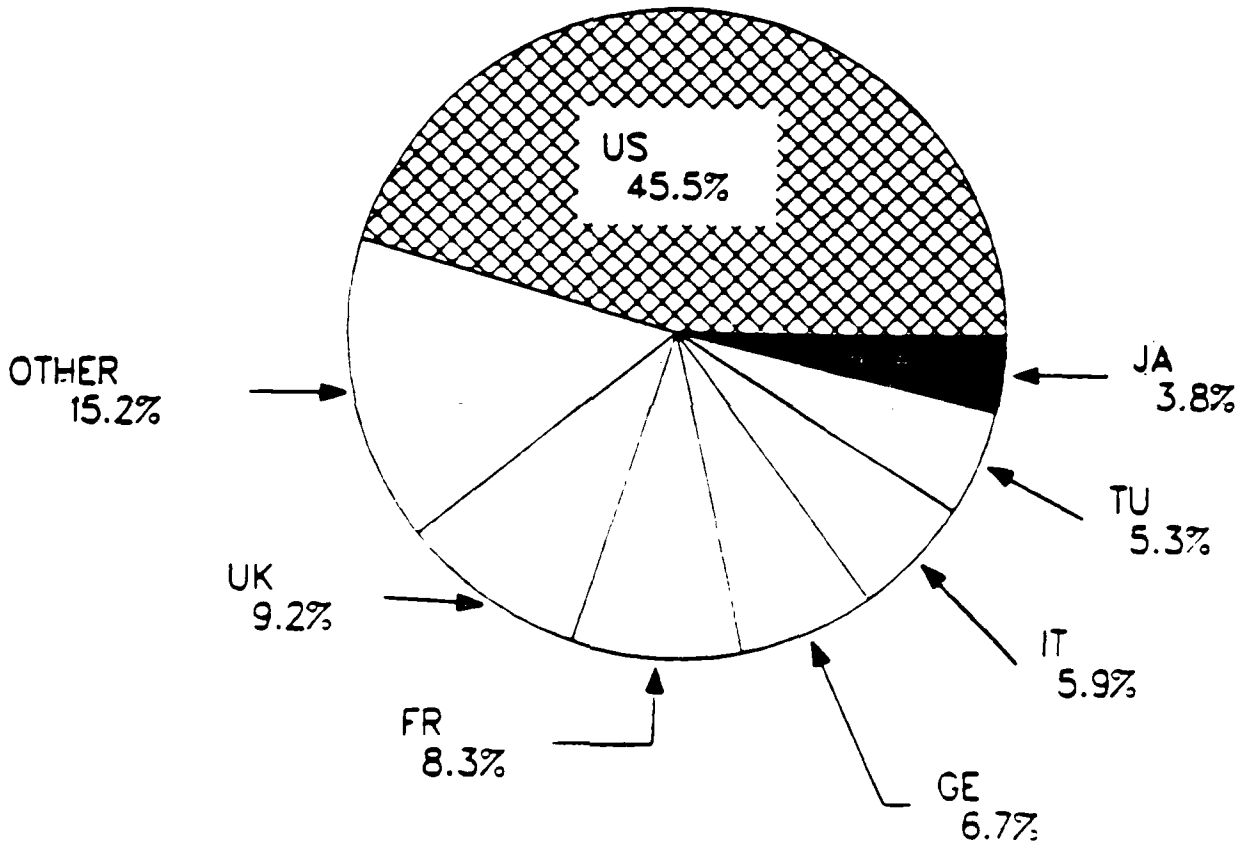
The total number of fighter/interceptor, attack, bomber, and tactical reconnaissance aircraft in the NATO and Japanese inventories is shown in Chart II-22, along with each country's share of the total. Trainer aircraft considered to be combat capable are included in the equipment counts; electronic warfare aircraft are not.

Although no single non-US nation accounts for more than 10 percent of the NATO and Japan total, the combined holdings of these countries represent 55 percent of the total. Excluding Japan, the non-US NATO share drops slightly, to 51 percent.

With 45 percent of its inventory consisting of new-generation aircraft and the remaining 55 percent comprising current-generation equipment, the US Air Force is further along in its aircraft modernization program than are the air forces of the other NATO members. New-generation aircraft constitute 25 percent of non-U.S. combined aircraft holdings, whereas current-generation models account for just under 65 percent and older planes for slightly over 10 percent. That picture, too, will change over the coming years, as the major modernization programs now under way within most of the allied air forces near completion. As a result, by the late 1980s, new-generation aircraft will constitute a sizable share of the allied inventory, with few older-model planes remaining except in the Southern Region countries.

CHART II-22

TACTICAL AIR FORCE COMBAT AIRCRAFT
1985
TOTAL NATO AND JAPAN



ALLIED PERFORMANCE IN ACHIEVING NATO'S THREE PERCENT REAL GROWTH GOAL

The following paragraphs address the Congress' request for estimates of the rate of real growth in defense spending achieved by each of the NATO allies in recent years. Table II-23 presents country-by-country estimates of the percentage change in real defense spending from 1981 through 1986. These figures--some of which are still subject to change--show real increases for most countries, and weighted-average increases for the non-US NATO nations as a group (including Spain) of 2.8 percent for 1981, 2.5 percent for 1982, 1.3 percent for 1983, 2.0 percent for 1984, and 1.0 percent for 1985. The weighted-average increase for 1986 is estimated to be between 1.2 and 1.6 percent.

Six of the NATO allies--Canada, France, Germany, Greece, Luxembourg, and the Netherlands--had increases in the region of 3 percent or more in 1981, while Norway came close, with a 2.7 percent increase. (NATO interprets "in the region of three percent" as being an increase of 2.8 percent or greater.) Six nations reported such increases in 1982: Canada, Italy, Norway, Spain, Turkey, and the United Kingdom. Three nations--Canada, Luxembourg, and Norway--were in the 3 percent range in 1983, while five--Canada, Greece, Italy, the Netherlands, and the United Kingdom--achieved this objective in 1984. Data for 1985 show Italy, Norway, and Turkey in the 3 percent region.

Estimates for 1986 indicate that six nations--Belgium, Canada, Luxembourg, the Netherlands, Portugal, and Turkey--achieved increases in the 3 percent region. A seventh nation, Norway, also makes this list, when the high range estimate is used.

Although the real increases in US spending exceed the average growth rates of allied defense programs over the 1981-86 period, the high US growth rates in recent years reflect in part an effort to compensate for the real decreases and low growth rates we experienced during most of the 1970s, when our allies were achieving steady real increases. Accordingly, US cumulative real defense spending for the early 1970s through the mid-1980s was approximately what it would have been if US defense spending had declined by a uniform annual rate of roughly 1 to 2 percent each year during that period. A comparable computation for the non-US allies results in a uniform annual rate of plus 2 percent.

Although not part of the Congressional reporting requirement, data for Japan are shown at the bottom of Table II-23 for purposes of comparison. These figures indicate a high rate of real growth--on the order of 5 to 6 percent per year--for the 1981-86 period.

TABLE II-23

GROWTH IN TOTAL DEFENSE SPENDING OF NATO COUNTRIES AND JAPAN
Percent Change from Previous Year in Constant Prices (Excluding Inflation)

	1981	1982	1983	1984	1985	1986 (Est.)
Belgium	0.9	-0.1	-0.4	-1.3	-1.7	5.3/10.1
Canada	3.1	4.5	8.0	7.2	2.4	3.7
Denmark	0.6	-0.3	0.8	-1.1	0.9	1.6
France	3.9[a]/	1.3[a]/	1.8[a]/	-0.2[a]/	-0.2[a]/	2.6[a]/
Germany	3.2	-0.7	0.8	-0.4	0.3	0.1
Greece	22.8	-1.1	-7.9	17.1	0.7	-5.2/-2.6
Italy	-0.5	3.1	2.5	2.8	3.0	1.8
Luxembourg	4.3	0.2	3.4	0.5	-1.5	9.5
Netherlands	4.2	2.2	0.5	3.2	0.2	3.4
Norway	2.7	4.1	4.0	-4.6	15.2	-4.9/4.1
Portugal	1.2	0.6	-3.1	-4.6	-0.3	5.2
Spain	1.8	3.5	2.1	2.6	2.5	-4.7
Turkey	1.8	4.6	-4.4	-1.3	8.5	13.0
United Kingdom	1.4	6.0	0.4	4.0	-0.2	0.2
United States	4.6	7.0	7.9	4.7	7.8	6.0
Non-US NATO Total [b]/						
Excluding Spain	2.8	2.4	1.2	1.9	0.9	1.5/1.9
Including Spain	2.8	2.5	1.3	2.0	1.0	1.2/1.6
NATO Total [b]/						
Excluding Spain	4.1	5.5	5.8	3.9	5.8	4.8/4.9
Including Spain	4.0	5.5	5.8	3.9	5.8	4.6/4.7
Japan [c]/	4.8	5.9	5.6	5.3	5.3	5.0/6.9

NOTE: The spending totals from which these figures were derived reflect NATO's definition of defense spending and are the best estimates that can be made on the basis of information now available. National fiscal years correspond to calendar years except for those of Canada, Japan, and the United Kingdom, which run from April to March, and the United States, which begins its fiscal years in October. Turkish data through 1981 are based on a March-February fiscal year; in 1983, Turkey converted to a January-December fiscal year.

a/ DoD estimate.

b/ Weighted-average growth rates developed using constant 1985 prices and 1985 exchange rates.

c/ Not included in totals.

III. EFFORTS TO ELIMINATE DISPARITIES AND IMPROVE ALLIED PERFORMANCE

In December 1984, the Defense Ministers agreed that "redressing the steadily growing conventional imbalance favoring the Warsaw Pact is necessary to strengthen deterrence and reduce dependence on the early use of nuclear weapons". Ministers tasked the Secretary General and the Defense Planning Committee in permanent session to come forward with proposals for a coherent effort on conventional defense improvements (CDI). The following May, the Defense Ministers approved Ministerial Guidance 1985, which included a roadmap for the coherent effort - namely, an agreed set of areas of critical military deficiency to focus the effort and marching orders to the nations, the Senior NATO Committees, and the NATO Military Authorities. The Military Authorities were tasked, in particular, to use the force goals process to determine specific measures to remedy the areas of deficiency. By the spring of 1986, a new set of force goals was ready, with a selected few for each nation highlighted as of particular relevance to remedying the areas of deficiency. In addition, the Senior NATO Committees had begun to take specific actions on aspects of their work that could assist the remedial effort, and nations were taking steps to adjust national plans to suit the priorities of the CDI effort. Strong emphasis was placed on increased sustainability (especially ammunition stocks) and armaments cooperation (especially what have been termed Nunn Amendment programs).

The overall response to conventional defense improvements special efforts by the nations in the various NATO fora has been positive, with significant actions under way or being stimulated in the nations, committees, and staffs. The initial response to the highlighted force goals has also been positive. The Alliance, overall, and the non-US allies, as a group, will accomplish a large number and wide range of required improvements. Nevertheless, deficiencies will remain, and this must be taken into account in the next alliance planning cycle.

Integrated into the processes of the Alliance, and now into national planning, the CDI effort is designed to be a long term effort leading to increasingly effective contributions to the military capabilities needed for the common defense of the Alliance.

BURDENSHARING AND NATO DEFENSE PLANNING

The force goal process is a principal means of influencing our NATO Allies even apart from its CDI aspects. In the spring of each even-numbered year, NATO adopts a new set of force goals, which are formal targets for improvement of the forces committed to the Alliance. These force goals address every aspect of these forces, including: readiness; sustainability; modernization; and force structure. Although the force goals are aimed generally at the short to medium term, many require long range force and equipment development efforts, both national and multinational.

Beginning almost as soon as one set of force goals is adopted, the Major NATO Commanders (MNCs) begin to develop a new package of force proposals for each nation (less Iceland, Spain, and France) in close coordination with the subordinate NATO commands and the national military staffs. After the Military Committee has reviewed and approved these proposals, the Defense Review Committee (DRC) conducts multilateral examinations of each nation's package

of force proposals, in order to tailor it to reported national plans so as to give the nation a reasonable challenge beyond its current defense effort. This challenge is set in line with the resource guidance contained in NATO's Ministerial Guidance.

NUCLEAR PLANNING GROUP

The NATO Nuclear Planning Group (NPG) includes the Defense Ministers of all Alliance countries less France and Iceland. In their semi-annual meetings, NPG members have called attention to the importance of sharing the risks and costs of maintaining Alliance nuclear deterrent forces. Furthermore, ministers have reaffirmed the need to maintain deterrent forces whose delivery systems and warheads are survivable, responsive and effective. NPG communiques and other NATO documents reflect this attention. On a permanent basis, the NPG staff group performs the day-to-day work, including work on documents and reports designed to enhance the understanding by allied governments and their publics of the necessity to share the risks and costs of maintaining the nuclear deterrent.

The continuing implementation of the 12 December 1979 dual-tracked decision is perhaps the most obvious example of the willingness of NATO nations to share the considerable political costs as well as the military risks associated with the modernization of NATO's LRINF forces. In particular, the governments of the basing countries, the UK, Germany, Italy, Belgium, and The Netherlands, have been subjected to intense political pressure from elements within their own publics as well as from foreign governments and peace groups to alter their support for deployment even without a concrete negotiated result obviating the need for such deployment. Without the steadfast support of these governments in particular, and their willingness to undertake ambitious public information programs, deployment would not have been possible.

COMMONLY-FUNDED PROGRAMS

In NATO, common funding and cost sharing in various multinational fora go hand-in-hand with the broadest possible cooperation for common defense. The long-accepted principle of one country, one vote, is the basis for unanimous agreement for common funding by the whole membership. With few exceptions, this common funding theme applies to the NATO Infrastructure Program; to the program for operations and maintenance (O&M) of the NATO Military Headquarters, agencies, and common use facilities; and to the NATO civil budget for O&M of the NATO headquarters, and the NATO building and civil preparedness programs.

In the early 1950's, political decisions which established the widely varying NATO country cost-shares of the common-funded programs were heavily influenced by economic indications of the comparative abilities of the nations to contribute. More recently, our allies have increased their contributions to such programs. All categories of NATO cost-sharing have

served the US well. While the total US defense expenditures continue to exceed those of all other NATO countries combined, the US contribution to all of the common-funded programs (i.e., Infrastructure, Military Budget, and Civil Budget) averages less than 30 percent.

Infrastructure Program. The Infrastructure Program finances the capital costs of common-funded military facilities and communications/electronic systems for wartime common use, for joint use by two or more countries, or by NATO-committed forces of one country. The facilities and systems produced by this program since 1950 are the most tangible evidence of NATO cooperation. Its benefits, in addition to the security aspects, are further shared by all participating countries in terms of actual use by their forces, economic gains from their presence and operations, and from commercial competition for the labor-intensive construction work and the high-value communications-electronics equipment contracts involved.

The December 1984 agreement on the six-year (1985-1990) funding ceiling of 3.0 billion Infrastructure Accounting Units (IAU) (some $10.2 billion at current exchange rates) represents a 55 percent increase in real terms over the previous funding period. The NATO nations have responded well to the significant increase in workload and have recently doubled project execution rates with annual fund authorization now exceeding $1.4 billion. Although the US cost-share of the NATO Common Funded Infrastructure Program remains under 28 percent, our forces are the beneficiaries of projects costing a significantly greater percentage of the total budget. In addition, we have been able to recoup virtually the entire backlog of NATO-eligible US prefinanced projects. With the fourth year (Slice) of the current funding cycle now ready for execution, most include essential airfield facilities for US reinforcement aircraft; shelters for reinforcement aircraft; completion of the facilities for Patriot missile deployment; construction of fuel storage and distribution facilities in Iceland; an upgrade of the Iceland air defense system; storage and airfield facilities in Norway to support a U.S. Marine Corps amphibious brigade; storage associated with the US/Germany Wartime Host Nation Support Agreement; and facilities for US combat helicopters.

Military budget. The second common funding category, that of recurring operations and maintenance (O&M) expenses, covers cost-sharing for the international military headquarters and agencies as well as peacetime O&M costs for the use of certain infrastructure-built systems and facilities (communication, POL pipeline, war headquarters) which are totally for NATO common use. The US share of this NATO military budget is currently about $150 million yearly. It is important to note, however, that most infrastructure-built facilities are intended for the use of forces committed to NATO by one or more member nations -- in other words by less than all of the member nations. In these cases, each using country pays unilaterally for its share of the O&M costs for each facility.

Civil Budget. The NATO civil budget provides for the O&M costs of the NATO headquarters building in Brussels, Belgium, for its civilian personnel, and for a few NATO non-military activities. This program is financed from

non-defense budgets of all NATO countries. The current US share of 23.4 percent is budgeted by the Department of State. The total civil budget was about $90 million in 1986.

NATO Science Program. The NATO science program is a jointly-funded program which promotes scientific research through grants and fellowships to scientists from Alliance nations. The research is generally in a physical science. One element of the program, "science for stability" is designed to stimulate domestic technology development in the Alliance's less developed members, Greece, Turkey, and Portugal. With the entry of Spain into the Alliance, some funds may be spent there. The program aims to promote links between academia, science and industry in the three countries, rather than to sponsor research at the cutting edge of any particular technology. The cost of the science program is approximately $22 million and the "science for stability" program has a budget of about $4 million. Both are contained within the NATO Civil Budget.

Von Karman Institute (VKI). The VKI is a post-graduate research center in fluid dynamics. It is located in Waterloo, Belgium, and has an international reputation as a research center in that field. It is funded by 13 members of the Alliance and has a staff of students and instructors nominated by the supporting member nations. The US share ($330,000) is contributed in its entirety by the U.S. Air Force. The Air Force is very interested in the programs of the institute and in continuation of its contribution.

JOINTLY-FUNDED PROGRAMS

There have been numerous other cooperatively-financed joint ventures in NATO. Their contributions vary and involve only those countries which have special reasons to participate and to share the costs. These include consortia financing programs, which usually involve coproduction or joint ventures. They are developed by the participating countries and are appropriately endorsed by NATO. Country contributions relate directly to the benefit that each country expects from the project. This consortium approach has been used to procure, store and distribute spares, replacement components and supplies, and to operate installations that serve only directly participating/paying countries. Examples of these projects include the NATO Maintenance and Supply Agency (NAMSA) in Luxembourg, and the NATO HAWK Production and Logistics Organization (NHPLO) in Paris. Special innovations are adopted for special projects, such as the multi-country funding of both capital costs and O&M costs for the NATO airborne early warning and control system (AEW&CS). Since the cost-sharing percentages of country contributions to such ventures are different from those established for

common funding programs, they are administered as separate entities. The recent agreement to collaborate with the US on a cooperative research and development program to upgrade the electronic counter-measures (ECM) system of the NATO AEW&CS will help ensure continued effectiveness of this important system.

ARMAMENTS COOPERATION

Our armaments cooperation activities focus on equitable burdensharing with Alliance and other countries with whom we share security interests. Since 1957, when initial agreement was reached on NATO coproduction programs, there have been over 200 activities in the form of bilateral and multilateral codevelopment, coproduction, and licensed production projects, memoranda of understanding and family of weapons projects.

The broad base for cooperation continues to expand as more industry-to-industry relationships are developed. The multiple-launch rocket system (MLRS) is an example of a US system with early European involvement. The AV-8B Harrier Program is an example of a European system with subsequent US involvement in both codevelopment and coproduction. The U.S. Army recently decided to acquire the mobile subscriber equipment (MSE) system which includes major elements of the French-designed Rita System. The French will coproduce Rita-derived MSE components. In terms of its dollar value, this procurement is of great significance. The three-nation Rolling Airframe Missile (RAM) program and the four-nation Terminal guidance warhead for the MLRS Program are examples of cooperative developments involving exchanges of advanced technologies. The United States is involved in all of these programs. However, our European allies are also engaged in a multitude of their own cooperative ventures, such as the Tornado aircraft. In these programs, they share the cost burden and the risk of developing and producing equipment which can meet the Alliance needs.

Significant improvements have been made in NATO's air defense coverage through a joint effort with the Congress. Innovative agreements have been signed with Germany for acquisition of the Patriot air defense system and for point defense of airfields with the European Roland system. The Netherlands and the US have entered into a related innovative cooperative arrangement for The Netherlands' Patriot. Discussions with Belgium and Italy regarding the Patriot system are now underway as well. These efforts will result in enhanced effectiveness and interoperability in NATO's air defense.

We are also pursuing cooperation with Japan and other allied and friendly nations on a bilateral basis. Our focus is upon defined forces and missions which meet US and allied objectives collectively. We are working to understand both of our needs in order to most effectively use the resources of all. Last year, the first two cases of the transfer of Japanese defense technology to the United States were approved and more significant cases are possible this year. In September 1986, Japan made

a strong political statement on the potential benefits of SDI to Western deterrence and to US-Japan defense cooperation. US-Japan technical cooperation efforts have great deterrent potential and are focused within the DoD to ensure our overall program of armaments cooperation is balanced and in our national interest.

On an individual basis, many of these armaments cooperation projects can be considered successful as they have achieved a measure of standardization and interoperability and an exchange and infusion of technology into weapons systems that have enhanced Alliance capabilities. However, much more work remains to be done. NATO's cooperative efforts to date have not produced that degree of weapons modernization and interoperability, equipment availability and combat readiness needed to offset the numerical superiority and increasing sophistication of the Warsaw Pact forces, nor enough combat sustainability to enable NATO's conventional forces to resist a major Warsaw Pact attack for more than a limited time.

Enhanced armaments cooperation could turn this situation around. In the past year, with the help of the Nunn and Quayle Amendments and the commitment of NATO Defense Ministers, there has been substantial progress. Various nations have pledged to collaborate on several "Nunn Amendment" programs, each addressing CDI. Negotiations on Memoranda of Understanding for these and other projects are underway. In 1985, following a reinforced North Atlantic Council (NAC) Meeting, Foreign and Defense Ministers vigorously endorsed an improvement strategy for armaments cooperation. Part of this improvement strategy called for a series of studies, including one which looks at armaments planning at NATO in an effort to better link equipment planning with force planning.

The emerging technologies initiative, endorsed by NATO Defense Ministers two years ago, has matured and provided results. This initiative, focusing on near-term efforts to field superior military equipment through the use of new technology, has resulted in paring down of suggested programs, until several of the most worthy are well on their way toward collaborative multi-national programs. Some are using Nunn Amendment funds. Further, during 1986 an ad hoc group was formed to review long term emerging technologies (those technologies which are less mature but still are central for future system development efforts) and to come up with several programs of interest to various NATO nations. The idea is to collaborate on projects early in their life cycle, i.e., still in the laboratory and not yet identified with individual weapon systems. The Ad Hoc Group has institutionalized this initiative, and seven Alliance nations are now exchanging information and preparing for collaboration on defense research.

As a separate committee reporting to the North Atlantic Council (NAC) and Defense Planning Committee (DPC), the NATO Air Defense Committee (NADC) has recognized the importance of air defense improvements in the overall conventional defense improvement effort and is moving forward with a revision to its defense weapons program. A related high priority effort is the introduction of a highly reliable and ECM-resistant NATO Identification System (NIS).

While armaments cooperation can improve the industrial base, we must recognize that preventing technology transfer of certain critical information is a very important aspect of each cooperative arrangement. Each agreement includes provisions to protect this critical technology information. We must act, and the Europeans must act, to enhance the effectiveness of Alliance armaments cooperation. A Defense Science Board (DSB) study of industry-to-industry armaments cooperation found that cooperation is possible -- much of the regional industrial infrastructure is already in place -- but clear, unambiguous and consistent government support for arms cooperation is essential. This theme was reaffirmed by NATO in its study on armaments cooperation by the allies.

In 1986, NATO's organization for armaments cooperation, the Conference of National Armaments Directors (CNAD), took the significant step of aligning itself more directly with the Alliance's search for solutions to key deficiencies identified by Defense Ministers. This has resulted in a more focused effort to make armaments cooperation directly relevant to Alliance needs. NATO Allies have thus far responded to the Nunn Amendment and are close to agreement on the allocation of constrained resources to some specific cooperative programs which will enhance Alliance capabilities. These draft agreements address the sharing of burdens as well as the benefits of these programs.

INFORMATION PROGRAM

The US mission to NATO (USNATO) and American embassies in NATO capitals conduct active public information programs in support of US Government political and security objectives, including those related to burdensharing issues. The ambassador and other senior mission representatives meet regularly with European and American news correspondents. They give public presentations and participate in seminars and symposiums on defense issues throughout Western Europe and the US. Each year US-NATO sponsors two major "regional" seminars, which include opinion leaders from Western Europe and from the US, on the most urgent security issues of the day. Regular "Euronet" satellite press conferences on defense and foreign policy themes are offered to the large international press corps in Brussels. The USNATO ambassador and senior USNATO officers brief 35 to 40 groups of European opinion leaders invited to NATO Headquarters each year. This briefing program is managed jointly by USIA, USNATO and US armed forces public affairs offices throughout Europe in collaboration with US embassies in fifteen NATO capitals. Scores of on-the-record and background interviews are conducted annually with individual journalists by the Ambassador and his staff. Group interviews with select journalists over breakfast and lunch are held less frequently with high-level visitors. In addition, USNATO officers explain the European-American defense relationship to thousands of official and non-official visitors to NATO Headquarters annually.

BURDENSHARING AND THE NATO MILITARY AUTHORITIES

The US Delegation to the Military Committee (USDELMC) represents the Joint Chiefs of Staff at NATO Headquarters, and the US military representative to the Military Committee (USMILREP) heads the USDELMC. As is the case for USNATO, USDELMC deals with the allies on a multilateral basis and is also involved in the burdensharing issue on many fronts.

Much of the work of the Military Committee parallels that of the North Atlantic Council and the Defense Planning Committee. Regular formal and informal meetings of allied MILREPS, annual appraisals of allied military capabilities and performance and force proposals provide opportunities to deal with burdensharing issues.

CIVIL EMERGENCY PLANNING

Civil emergency planning efforts in 1986 continued to increase emphasis on readiness improvements that Alliance members make through their civil contributions to NATO's defense. Although not as concrete and readily visible as would be more tanks on the battlefield or ships at sea, these civil contributions are nonetheless exceptionally important. They include relatively low-cost but highly productive initiatives. Such civil contributions would allow nations at the same time to meet national mobilization needs, sustain acceptable standards of living, provide civil defense measures in order to preserve the political will to resist, discourage uncontrolled population movements, and protect the population, and to support the accomplishment of military missions such as reinforcement. As indicated in last year's report, the civil emergency planners at NATO have undertaken a number of specific initiatives within the context of CDI. We are making tangible progress on most efforts, and are concentrating on gaining national commitments rather than promises. For example, one important milestone achieved was attainment of our 1986 goal of adequate committed civilian passenger aircraft to augment US strategic airlift assets.

The significant events in 1986 that have injected new vitality and realism into allied civil emergency planning include the following:

- The Spanish referendum vote to continue membership in the Alliance. As a result of this decision our potential resource base of civil assets such as ships and aircraft is expanded. The decision also adds new transportation options to compensate for potential restrictions in access to the Mediterranean.

- Development of an intermodal NATO civil wartime agency (the Southern Europe Transport Organization - SETO) to deal with the specific transportation constraints expected in the Mediterranean region. The basic structure of SETO has now been agreed upon and detailed terms of reference and manning requirements are being developed.

- A study of ammunition production deficiencies. The NATO Industrial Planning Committee has concluded a study of Alliance ammunition production capacity and provided more realistic expectations of surge production in meeting NATO sustainment requirements. The North Atlantic council has ordered follow-up

work involving an examination of the sources of explosives as well as ammunition. NATO's response to these newly identified production limitations may provide new opportunities to demonstrate the advantages of consolidated procurement, joint development, interoperability and specialization within the Alliance. The potential for cost-effective investments in Greece, Portugal and Turkey also has been identified to the Alliance.

The Departments of Commerce and Defense and the Federal Emergency Management Agency (FEMA), in conjunction with the U.S. Mission to NATO, are independently developing policy options against which NATO recommendations can be measured. We are encouraged that this multi-disciplinary approach may provide a methodology for examining other aspects of NATO's industrial mobilization base.

- The Alliance, in close cooperation with the Department of Energy and the IEA, has significantly upgraded its ability to track the status of energy resources in order to deal with requirements in a crisis.

- The NATO Planning Board for Ocean Shipping (PBOS) has alerted NATO that losses of shipping suitable to meet crisis requirements are increasing at an alarming rate. Exploratory compensation is being examined in a number of quarters, but this remains one of the unresolved priority issues facing civil emergency planners.

- The Department of Transportation is working through the NATO Civil Aviation Planning Committee (CAPC), in close coordination with the Military Airlift Command, to ensure that problems are anticipated and that the available cargo and passenger airlift capacity meets NATO requirements.

Crisis Management Expertise. Depending on the crisis and which of the eight NATO civil wartime agencies (NCWAS) are activated, several thousand designees and consultants would move to predesignated operations centers to provide the expertise to handle defense shipping and to coordinate inland surface transportation in Central and Northern Europe and in the Mediterranean, civil aviation, wartime oil requirements, food and industrial supplies, wartime insurance, and refugee movement. These individuals, many of whom are senior officials of allied corporations and/or government agencies, are well-versed in their technical specialties, hold the requisite security clearances, have been trained in NATO procedures, and are prepared to assume their crisis management or wartime duties on short notice. Permanent arrangements have been made to support three of these wartime agencies (western branches of shipping, oil, and food and industrial supplies) at a site in the US.

--- Shipping. Alliance member countries have committed all ocean-going merchant shipping to a NATO pool which will be managed by NATO'S Defense Ship Authorities (DSA) for the best use and benefit of the alliance. Additionally, NATO nations have committed militarily suitable ships (breakbulk, container and RO/RO) to provide direct sealift support to the RRP. These vessels provide a general cargo capacity of about ten million tons. This is a dynamic commitment by nations that is constantly updated to compensate for additions and losses to national fleets. A concerted

effort is underway to anticipate shortfalls in specific categories of sealift requirements, particularly breakbulk vessels, and to obtain commitment of alternative shipping.

--- Aviation. Three additional BO-747 equivalent passenger aircraft have been committed to NATO support in wartime, meeting the 747 equivalent aircraft goal. Cargo aircraft assets remain below requirements.

HOST NATION SUPPORT ARRANGEMENTS

The United States and most of its allies have made agreements under which US forces abroad obtain in peacetime (or would obtain in wartime) considerable amounts of support from their host nation. Depending on the situation, the host country, and the type of support, costs may be reimbursed by the United States or the host nation may provide the support gratis. In either case, host nation support (HNS) is a valuable contribution to burdensharing, as it reduces requirements for US combat service support forces, facilities, and supplies. In addition, by making use of assets already in the overseas theater, wartime HNS reduces demands on strategic lift capabilities and ensures that support will be available from the very earliest days of a war. Many European host nations also have similar arrangements with the other reinforcing nations such as the United Kingdom and Canada.

HNS arrangements are divided into peacetime HNS and wartime HNS. Peacetime HNS takes such forms as providing and supporting US bases, operating joint-use installations, providing or operating prepositioning facilities, and allowing US forces to use host nation training ranges. Wartime HNS (WHNS) generally covers a broader scope of activities. It can include areas like nuclear-biological-chemical (NBC) decontamination, base air defense, and battle damage repair as well as transportation, supply, and base support functions. As a rule, the US signs a general, or "umbrella," WHNS agreement with each host nation laying out the basic ground rules under which WHNS will be furnished. Technical agreements, subordinate to the umbrella agreement, address functional or geographic subsets of WHNS. Finally, implementing arrangements spell out specific quantities, procedures, and schedules. Additional bilateral mutual support agreements can provide a further element of flexibility by permitting logistics cooperation beyond that spelled out specifically in the HNS agreements.

Progress continues to be made in refining logistic support arrangements, policies, and procedures. USEUCOM has logistics coordination cells operating in Belgium, Italy, Luxembourg, The Netherlands, Norway, and the UK. Agreements and host nation capabilities are reviewed and refined and multinational planning is continually improving. A more specialized arrangement dealing with logistics is the NATO Mutual Support Act (NMSA)

of 1979, which established procedures to be followed by the US, NATO allies and subsidiary bodies of NATO in acquiring logistic supplies and services in Europe and its adjacent waters. In 1986, this act was amended to extend coverage to a few non-NATO countries.

Peacetime Host Nation Support

The most common peacetime HNS efforts are associated with US overseas bases. Some of the usual specific types of support to these installations are:

- Rent-free or reduced-price real estate, including family housing.

- Real property maintenance, facility improvements, utilities, and other base operating support.

- Use of test and training ranges.

- Air traffic control, navigation aids, etc., at joint-use airfields and comparable services at other joint installations.

In addition, many allies provide other forms of peacetime HNS, such as:

- Permitting allied exercises in training areas and on private and public land, and assuming at least part of the costs of maneuver-related civilian casualties and damage.

- Providing storage facilities for ammunition, POL, and other prepositioned equipment and supplies and, in some cases, operating these facilities.

- Domestic infrastructure improvements (roads, ports, airports, railroads, etc.) in anticipation of wartime requirements, and permitting use of such infrastructure for peacetime force and materiel movements and providing necessary supporting labor.

The United States has peacetime HNS arrangements of varying form with all NATO member nations.

Although there are no formal HNS agreements between the US and Japan, Japan's actual voluntary peacetime HNS contributions are significant and studies under the US-Japan Guidelines for Defense Cooperation of 1978 on potential wartime HNS are ongoing. Contributions are in the area of peacetime HNS, where Government of Japan direct and indirect monetary support for US forces amounts to over $1 billion annually or $1.26 billion in JFY 86 (1 April 1986 - 31 March 1987). Except where noted, figures are calculated at 220 yen/$. At today's exchange rate (155 yens/$), the JFY

86 total would equals $1.79 billion. Of the JFY 86 amount, about 70.8 percent was Government of Japan budgeted and 29.2 percent nonbudgeted cost avoidance. Budgeted support items amounted to about 5.4 percent of the $16.2 billion Japanese defense budget. Major categories of support were (1) facilities - $546.8 million, (2) land - $480.3 million, (3) labor - $110.6 million, and (4) miscellaneous (waived taxes on petroleum products, local procurement, customs, road tolls, landing and port charges, and claims) - $117.1 million. Facilities Improvement Program (FIP) represents a firm Government of Japan commitment to support US Forces in Japan. FIP construction has centered on quality-of-life, sewage and water treatment facilities, etc., and has contributed greatly to the improvement of morale among US personnel stationed in Japan. Moreover, direct operational support facilities, such as the construction of hardened aircraft shelters, have been included in recent FIP budgets, although it is expected that emphasis will continue to be given to quality-of-life projects, such as family and bachelor housing and recreational facilities.

Owing to this voluntary GOJ program which began at $100 million in 1979 the US has an excellent base structure in Japan which greatly aids US capability to defend its own and allied interests in the Far East and has greatly improved the morale of US Forces stationed in Japan.

	Million Dollars (220 Yen/$)
JFY 81	148.6
JFY 82	185.9
JFY 83	228.6
JFY 84	285.9
JFY 85	287.3
JFY 86	321.8

The Government of Japan (Req'd) labor cost sharing program helps pay approximately 17 percent of the salaries and other costs associated with maintaining the over 21,000 member US Forces Japanese labor force. Costs are paid out of the Defense Facilities Administration Agency (DFAA) budget except as noted. For the period 1987-1991, the Government of Japan has agreed to additional cost-sharing which will result in the provision of at least an additional $100 million in this area of peacetime host nation support.

	Million Dollars (220 Yen/$)				
	JFY 83	JFY 84	JFY 85	JFY 86	JFY 87
Labor cost sharing	76.8	81.7	87.9	85.2	88.2

Wartime Host Nation Support

The structure and content of WHNS arrangements vary widely from country to country. Nevertheless, some generic types of arrangements exist with numerous allies.

Lines of Communication (LOC). LOC agreements provide for the US to make use of seaports, airports, roads, railroads, and inland waterways to deploy reinforcing units through the host country and to ship materiel through the host country for their support. Host nations provide access to this transportation system as well as, for example, ancillary services such as billeting, messing, medical care, communications, security, cargo-handling, and ship and aircraft servicing; the use of such equipment as rail cars, trucks, forklifts, aircraft refuelers, and barges; supplies such as fuel, food, clothing, spare parts, and medical supplies; necessary areas and facilities for staging and marshalling forces and materiel; and supporting labor.

Collocated Operating Bases (COBs) and Other Military Airfields. The COB program was developed in the early 70s as a follow-on project for support of US reinforcing air squadrons. The program continues to offer substantial savings to the US. A large number of bases in Europe have been identified to support USAF CONUS-based reinforcements in addition to the existing main operating bases (MOBs) and standby dispersal bases (SDBs).

Similar arrangements also exist for wartime operations of US naval aviation, including Marine Aviation Groups (MAGs) and maritime patrol aircraft (MPA) squadrons. COBs and similar bases require considerable US and host nation planning and investment in peacetime. Since COBs are normally active peacetime bases of the host nation's air force, the host nation would provide virtually all the necessary infrastructure, base operating support, and airfield services. Construction of additional facilities needed to support US squadrons (e.g. aircraft shelters, runway repair material, additional quarters) is funded through the NATO common infrastructure program, by the host nation, or jointly by the host nation and the US. The US has agreements for COBs and comparable naval airfields with:

- Belgium (2 COBs)
- Canada (2 COBs in Germany)
- Denmark (4 COBs)
- Germany (17 COBs)
- Italy (4 COBs)
- Netherlands (3 COBs)
- Norway (7 COBs)
- Portugal (2 MPA bases)
- Turkey (14 COBs)
- UK (11 COBs plus one MPA base)

In addition, the US has MOBs in Belgium, Germany, Greece, Iceland, Italy, The Netherlands, Portugal (Azores), Spain, Turkey, and the UK.

Support Forces. Several WHNS Agreements call for host nations to provide organized military and civilian units to provide combat service support to US forces.

-- The German WHNS agreement calls for some 93,000 military reservists in 173 units to perform wartime logistics functions for US forces. These include transportation, casualty evacuation, and NBC defense battalions; security and maintenance and service companies; airfield damage repair platoons; medical squadrons; and escort batteries. These reserve units also have their own command and control structure. The US and Germany are sharing the costs of equipping these units and providing the necessary infrastructure for them. In addition, Germany has agreed to provide a substantial number of civilian personnel for other support tasks.

Each of the countries providing WHNS conducts joint exercises with US forces in which the WHNS units work with the US forces they are intended to support.

Other Wartime Host Nation Support. The allies' HNS efforts, extend into a number of areas that cannot easily be categorized. Some of these are listed below.

-- Exemption from military service obligations for civilian personnel providing essential wartime support to US forces.

-- Mobilization of foreign nationals employed by the US in peacetime into the WHNS units performing the same services.

-- Arranging for procurement of supplies or furnishing supplies directly from the host nation economy (e.g., Netherlands guarantees to provide bunker fuel for strategic sealift vessels offloading in Dutch ports).

-- Providing general labor support.

-- Medical treatment and evacuation.

-- Direct support of deployed forces in areas such as messing, clothing, laundry, etc.

-- Naval base facilities including berths and moorings, pilots, ship repair facilities, supply operations, tugs lighterage, cargo handling, fuel and provisions, etc.

JAPANESE PERFORMANCE TOWARD ACHIEVING SELF-DEFENSE (INCLUDING SEA-LANES TO 1000 MILES)

Per Section 812 of the FY 1986 Department of State Authorization Act, DoD reported last year that the 1986-1990 Japanese defense plan was elevated to the status of a GOJ plan approved by the Cabinet; that the plan required 5.4 percent annual real growth; that it was unnecessary to exceed the 1976 GOJ Cabinet limitation of one percent of GNP for defense spending to achieve the first year of the new plan fully; but that estimates were that it would be necessary to exceed one percent in order to fund the complete plan. It was also reported that the 1986-1990 program, if continued on the road to full-funding, represents the minimum necessary to meet Japan's defense goals, including defense of the sea-lanes to 1000 miles.

The defense budget approved by the Japanese Cabinet for JFY 1987 fully funds the second year of the 1986-1990 program and, thus Japan remains on track to obtaining the necessary minimum to meet its defense goals if the remaining three years of the plan are also fully funded.

The Nakasone Cabinet decided to authorize defense spending in excess of one percent of GNP in order to keep the plan on target. Despite political sensitivities, the decision to exceed the limitation of one percent set in 1976 was made. The decision was Japan's alone but is congruent with the 1985 sense of the Congress resolution that Japan's 1986-1990 defense program should contain sufficient funding to achieve .000-mile self-defense capability.

In 1986 Senator Byrd wrote the President proposing that Japanese Defense Minister Kurihara be encouraged to meet the 1987 goals of the defense program fully and to consider spending any financial savings realized by appreciation of the yen or the lowering of oil prices to pay additional labor costs of Japanese civilians supporting American armed forces stationed in Japan. The Vice President, Secretary of State, and Secretary of Defense all encouraged Minister Kurihara to carry out the defense plan and to continue and, if possible, increase Japanese support for U.S. Forces in Japan.

Minister Kurihara, who had served as Minister of State for Defense in 1984 when the 1986-1990 defense program was formulated, pledged his best efforts to do what is necessary for the defense of Japan. Carrying out the Prime Minister's pledge at Williamsburg that Japan would carry out its responsibilities as a fullfledged member of the West and Minister Kurihara's determination, the Cabinet-approved 1987 budget not only fully funds the second year of the defense program increasing Japanese defense spending to $22.7 billion (compared to $12 billion in JFY 1983) but also increases cost sharing for U.S. Forces in Japan as suggested by Senator Byrd and the Administration. Japan's per capita defense spending for defense has increased dramatically to $187.

Following the Cabinet's 1987 budget decision, there was a necessity to deal with the 1976 limitation on defense spending, and there were many in Japan who favored adopting a new quantitative limit on defense

spending, such as "about" one percent of GNP, 1.1% of GNP, etc. In late January, the Cabinet announced a new policy whereby the limitation for the period 1986-1990 would be the total amount authorized for the five year defense plan. Future defense spending will be determined by taking into account the international situation, domestic constraints, the requirements of the U.S.-Japan Security Treaty, civilian control, etc., but no quantitiative limit was established, allowing Japan more flexibility to decide future defense growth based on need rather than on arbitrary criteria.

In 1978 Japan voluntarily assumed approximately $70 million of labor costs and the following year appropriated $100 million for facilities improvement for US forces. These figures continued and increased annually. In the 1987 budget, facilities costs and labor costs have increased by more than $70 million and $100 million, to more than $225 million and $495 million, respectively at 155 yen/$. The United States and Japan concluded an agreement in January of this year whereby the additional labor costs will commence in 1987 and continue through 1991. It is expected that under this agreement Japan's additional contribution will exceed $100 million annually for the length of the agreement.

Equipment levels authorized for the entire 1986-1990 defense plan, those authorized in the Cabinet-approved 1987 budget, and percentages of the five year plan authorized through the 1987 budget are shown below.

ITEM	1986-1990 PLAN	1987 BUDGET	1986-1990 PCT ACCOM
TANKS	216	52	50
ARTILLERY	216	43	39.8
ANTI-TANK HELO (AH-1S)	48	8	37.2
TRANSPORT HELO (CH-47)	36	6	37.4
DESTROYERS	9	2	44.4
SUBMARINES	5	1	40
ASW PATROL A/C (P3C)	50	9	38.0
ASW HELO (HSS2)	66	17	45.5
MINESWEEP HELO (MH-53)	12	2	50
INTERCEPTORS (F-15)	63	12	38.1
TRANSPORTS (C-130)	7	3	71.4
AEW AIRCARFT (E2C)	5	0	0

Other items of interest:

Ammunition Outlays	25% increase over 1986
R&D Funding	12.3% increase over 1986

Japan's progress in defense, particularly in view of GOJ budget austerity which saw other government agencies limited to negative real growth, is appropriate for a full-fledged ally. Some have even suggested that Japan

may have gone too far in surpassing the one percent of GNP defense spending limit and in establishing a new non-quantitative defense spending barrier. The above analysis shows such concern to be unfounded. Japan is still doing the minimum necessary to meet its defense goals, goals which are clearly limited and which are acceptable to the citizens of Japan, and Japan's trading partners in Asia. Only the Soviets are upset by what Japan is doing because Japan's self-defense efforts, when complemeted by US presence in the Pacific, complicate Soviet military planning, the essence of deterrence. These joint US-Japan efforts provide Japan a secure self-defense and directly or indirectly promote both regional and global security.

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APPENDIX A

ADDITIONAL BURDENSHARING DATA

This appendix provides a detailed comparison of US and allied efforts for the following burdensharing indicators: gross domestic product (GDP), population, per capita GDP, per capita defense spending, and defense spending by resource category. Also included are tabular breakouts for all of the major burdensharing indicators discussed in Chapter II and this appendix.

This material supplements and should be examined in conjunction with the "Burdensharing Measures and Performance" section of Chapter II.

GROSS DOMESTIC PRODUCT (GDP)

Charts A-1 and A-2 show the total GDP of each of the NATO nations and Japan along with each nation's share of the NATO and Japan Total. GDP reflects the total value of all goods and services produced within the national borders of a country in a given year and, thus, is a good indicator of the magnitude and rate of growth of a country's economy.

The magnitude of GDP varies greatly among the nations surveyed, ranging in 1985 from $4 billion for Luxembourg to $3.8 trillion for the United States. As a percentage of the NATO and Japan total, the US share amounted to 47.5 percent in 1985—a slight decline from the level of the early 1970s. 1/

The US share of GDP is substantially greater than that of any other nation. Japan, the second-ranking nation, accounts for 17 percent of the total and Germany, the third in rank, for 7.7 percent.

Among the non-US NATO nations, Germany, France, and to a lesser degree, the United Kingdom dominate the field, with Italy following close behind. Canada, Spain, the Netherlands, and Belgium are clustered somewhat further down the scale with shares in the 1 to 4 percent range, while the remaining six NATO nations (Denmark, Turkey, Norway, Greece, Portugal, and Luxembourg) account, individually, for less than 1 percent of the total and as a group, for only 3 percent.

An examination of real GDP growth provides some interesting insights into economic activity during the past decade. Between 1971 and 1985, US real GDP grew by 48 percent, compared with 41 percent for the non-US NATO nations and an impressive 90 percent for Japan. Among the non-US NATO nations, five countries—Turkey, Portugal, Norway, Canada, and Greece—achieved growth rates of higher than 50 percent, while the United Kingdom, with a 28 percent increase, lagged behind all the nations. Denmark and Germany—countries that are typically perceived from this side of the Atlantic as having highly prosperous economies—managed real increases for 1971-85 of around 35 percent, placing them close to last in real GDP growth during this period.

1/ All share figures were computed using constant 1985 prices and 1985 exchange rates.

CHART A-1

TOTAL GROSS DOMESTIC PRODUCT
US DOLLARS IN BILLIONS
(1985 CONSTANT DOLLARS – 1985 EXCHANGE RATES)

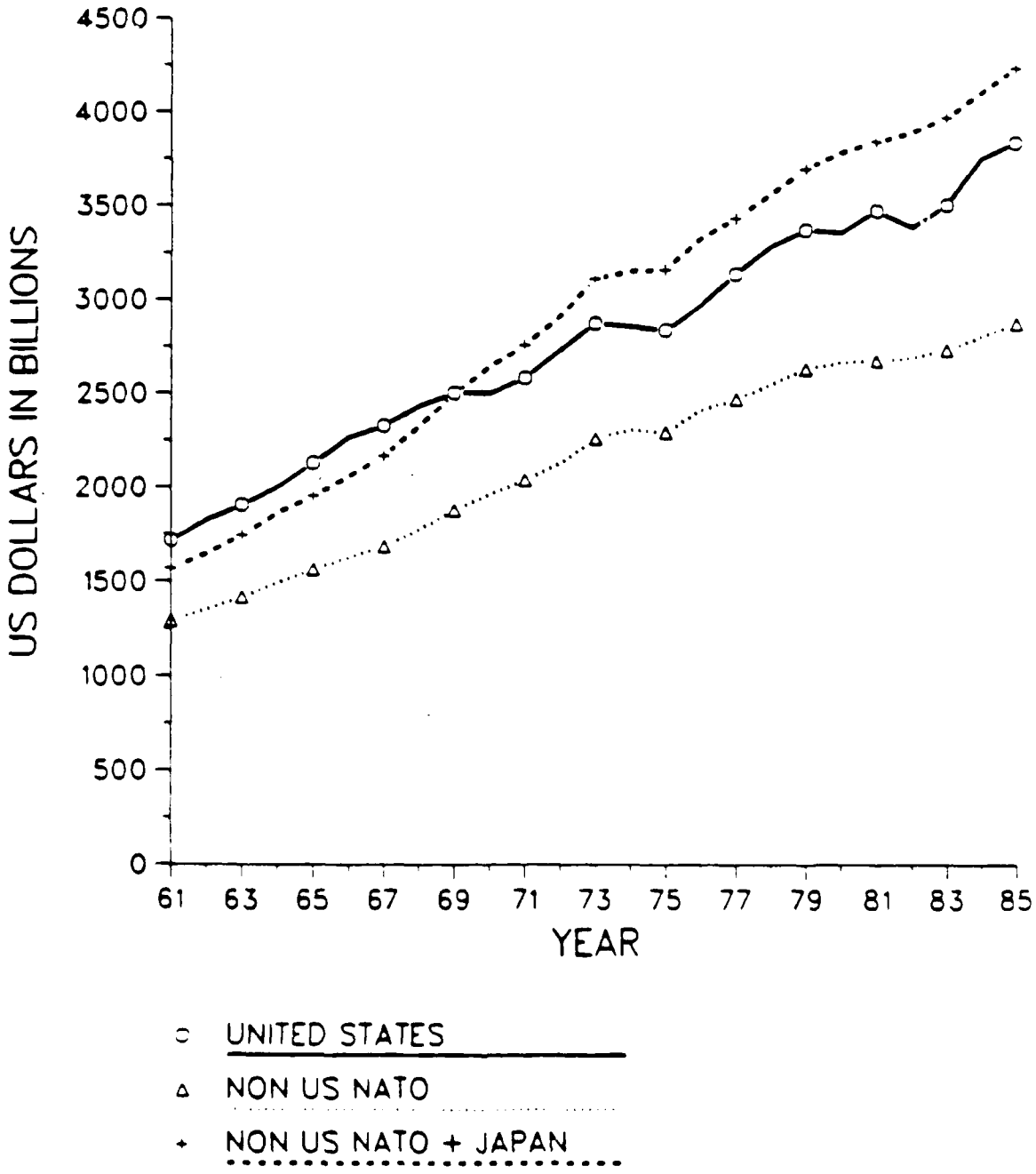
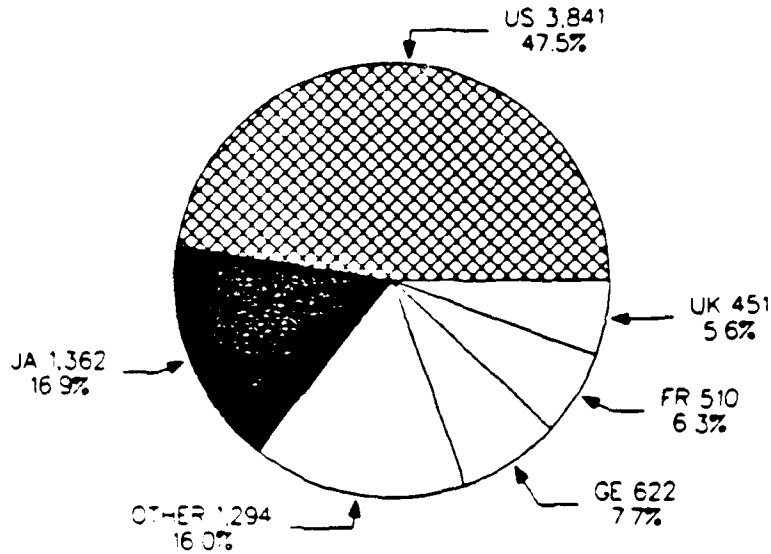
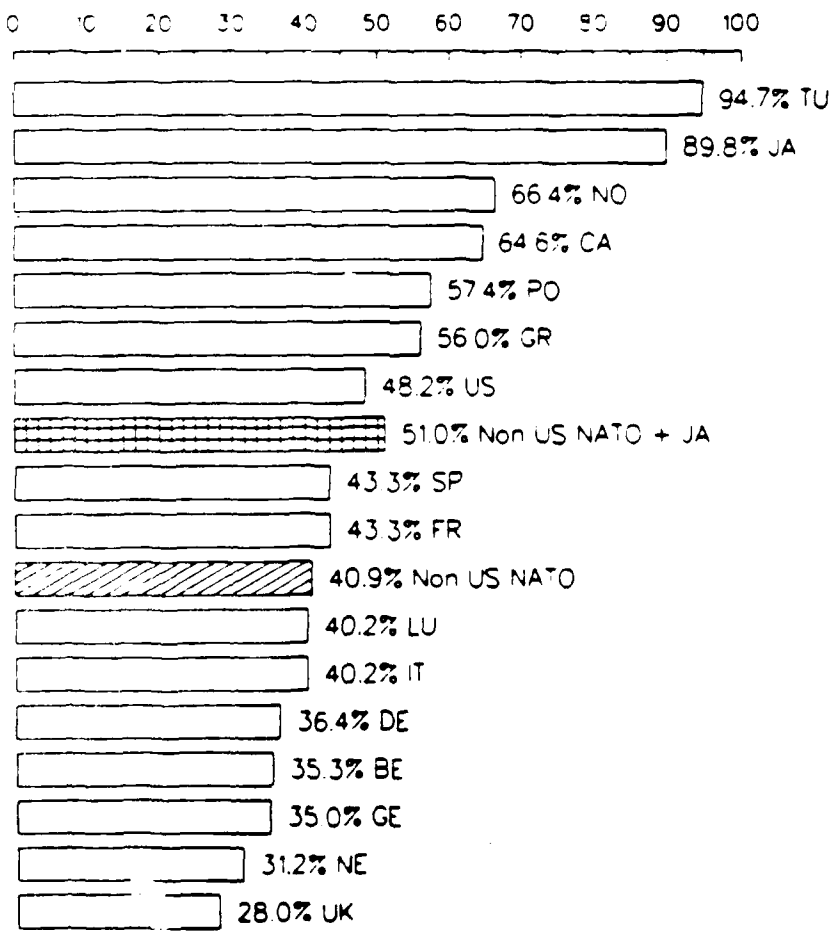


CHART A-2

GROSS DOMESTIC PRODUCT
(1985 CONSTANT DOLLARS IN BILLIONS – 1985 EXCHANGE RATES)
1985
TOTAL NATO & JAPAN: 8,080



% CHANGE IN GROSS DOMESTIC PRODUCT (1971 VS 1985)



POPULATION

Charts A-3 and A-4 compare the mid-year population size of the various nations and, thus, provide an indication of the human resources available to each. Population counts are relevant to defense burdensharing analyses for two reasons. On the one hand, they give a rough indication of the size of the pool from which a nation must draw its defense manpower. From this standpoint, a large and fast growing population would be a positive sign. On the other hand, they indicate the extent to which defense may have to compete with other programs for fiscal resources. By this standard, a large and growing population could mean additional requirements for those government services and consumer goods that compete with defense for taxpayers' dollars and for industrial capacity.

The results for this indicator exhibit many of the same general patterns as those of GDP. As with GDP, this measure varies widely across nations—the range in 1985 extending from 0.4 million for Luxembourg to 239 million for the United States.

The US figure translates to 32 percent of the NATO and Japan total—double the 16 percent share of Japan, the second most heavily populated country. Germany, which ranks third, supplies 8 percent of the total and is followed closely by Italy, the United Kingdom, and France, which account for 7.5 percent, 7.5 percent, and 7.3 percent, respectively.

Although the total percentage change in population growth between 1971 and 1985 varies from minus 5 percent for Germany to 36 percent for Turkey, there have been no dramatic changes in national shares of the total over the 15-year period.

PER CAPITA GROSS DOMESTIC PRODUCT

Per capita GDP (total GDP divided by total population) is a widely accepted measure of economic development and standard of living. This indicator recognizes that although a nation's total GDP may be relatively large and rapidly growing, if its population is also large and fast growing it may not be able to generate sufficient national income to provide for the needs of the populace.

A review of the trends (Charts A-5 and A-6) reveals a fairly clear-cut distinction between the "haves" and the "have-nots," or perhaps more accurately, the "have lesses." Most of the Northern and Central Region nations are clustered relatively close together at the top of the range, with per capita GDPs from around $8,000 to $13,000.

Among the top-ranking countries for this indicator, the United States places first with a per capita income of $16,100, followed by Canada, Norway, Denmark, and Germany, with per capita incomes ranging from $13,500 to $10,200. The United Kingdom, with a per capita income of just under $8,000, ranks lowest of all the Northern and Central Region nations.

CHART A-3

TOTAL POPULATION (IN MILLIONS)

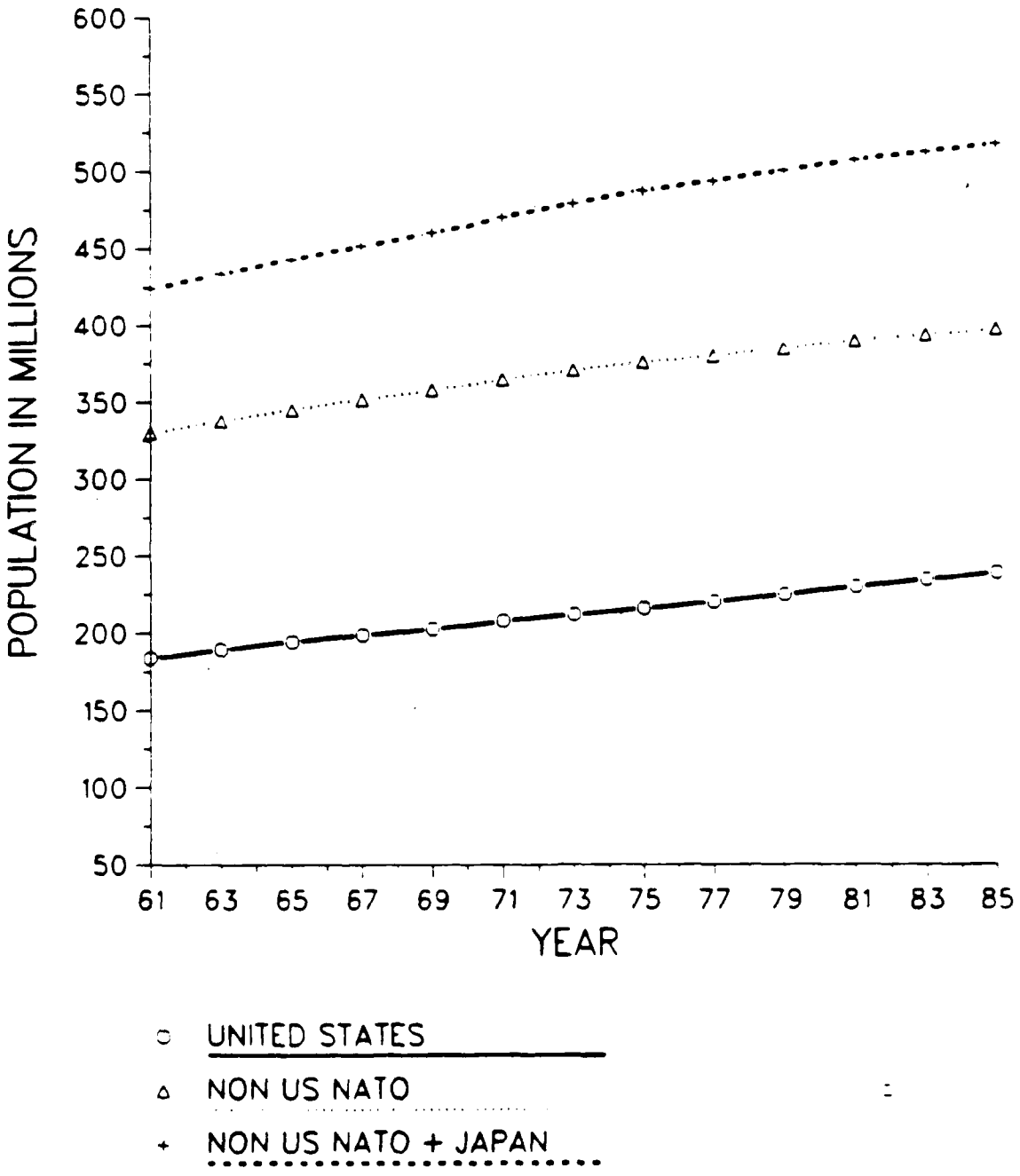
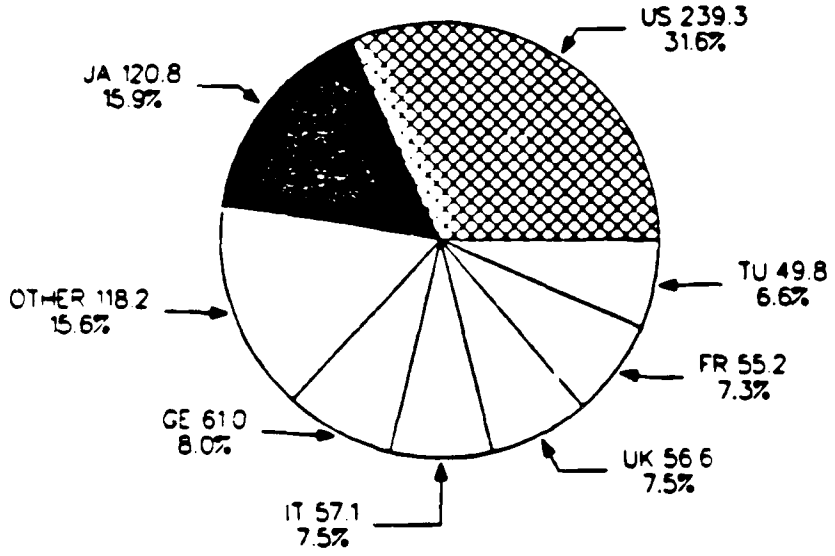


CHART A-4

POPULATION
(IN MILLIONS)
1985
TOTAL NATO & JAPAN: 758.0



% CHANGE IN POPULATION (1971 VS 1985)

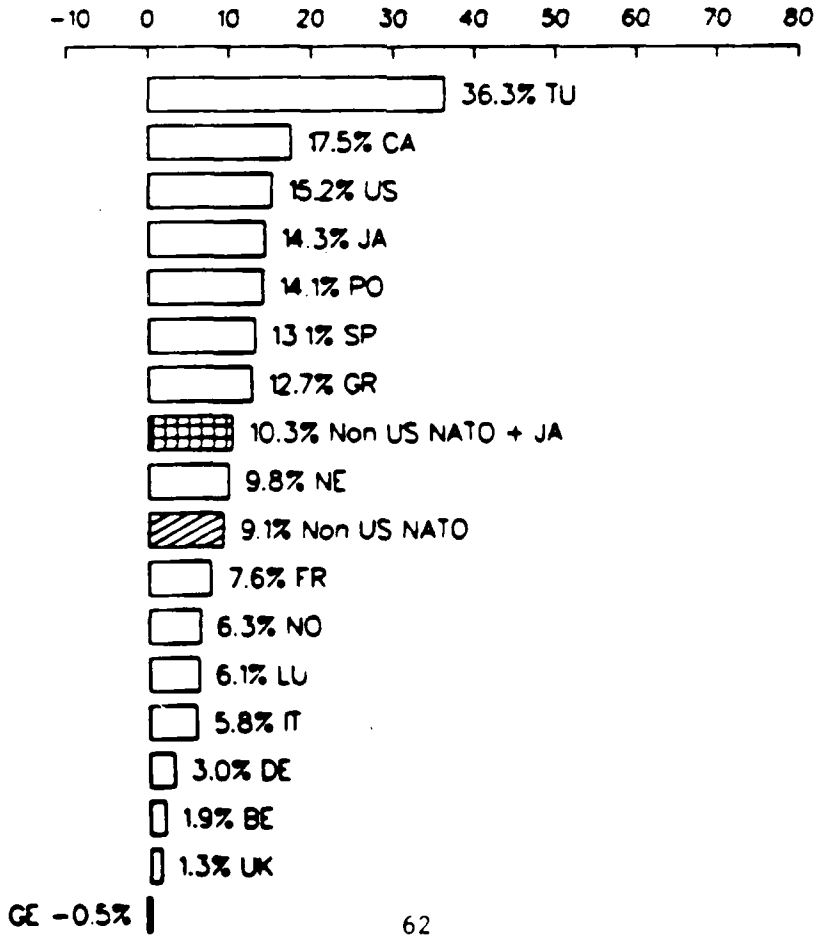


CHART A-5

GROSS DOMESTIC PRODUCT PER CAPITA (1985 CONSTANT DOLLARS – 1985 EXCHANGE RATES)

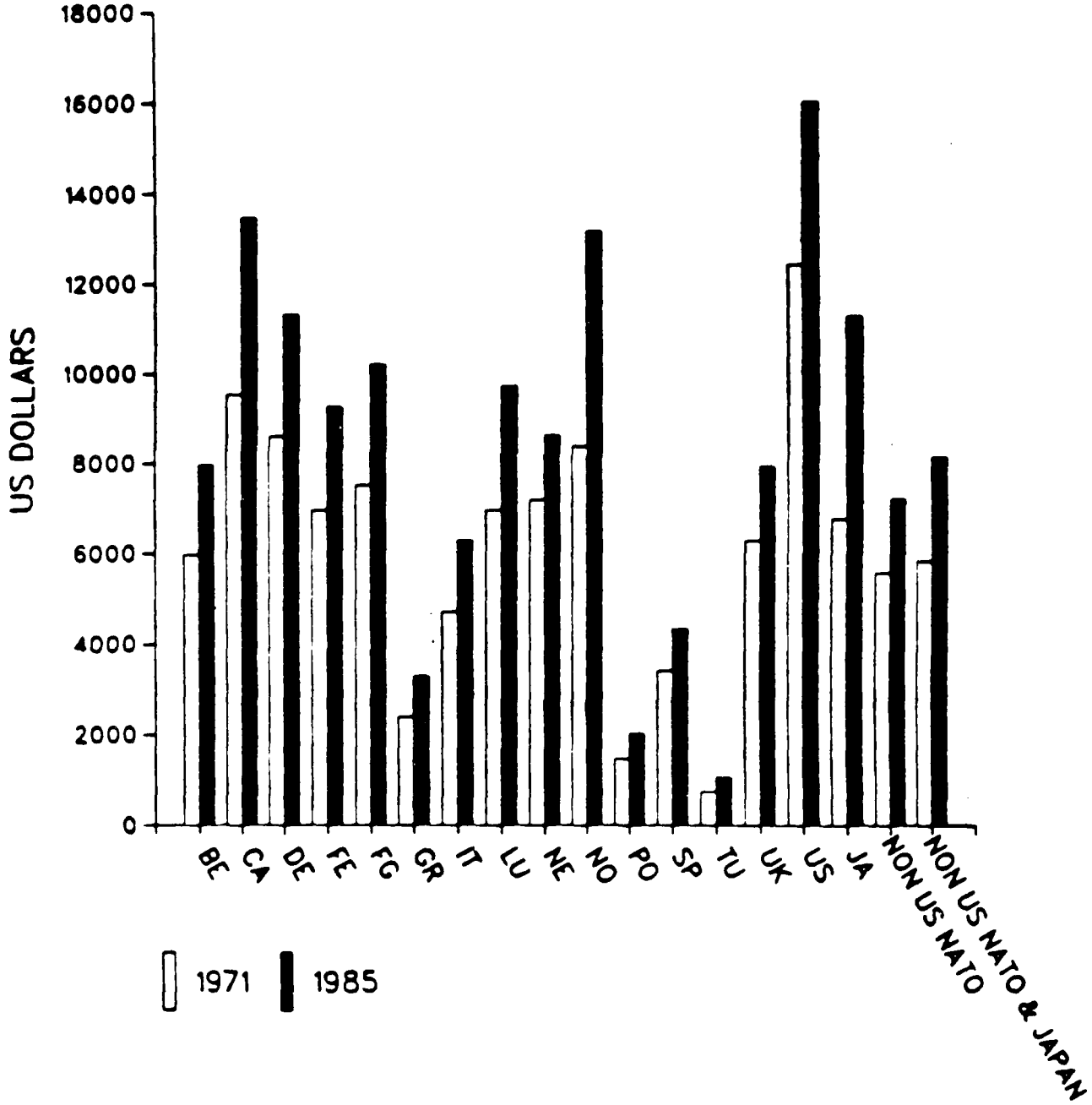
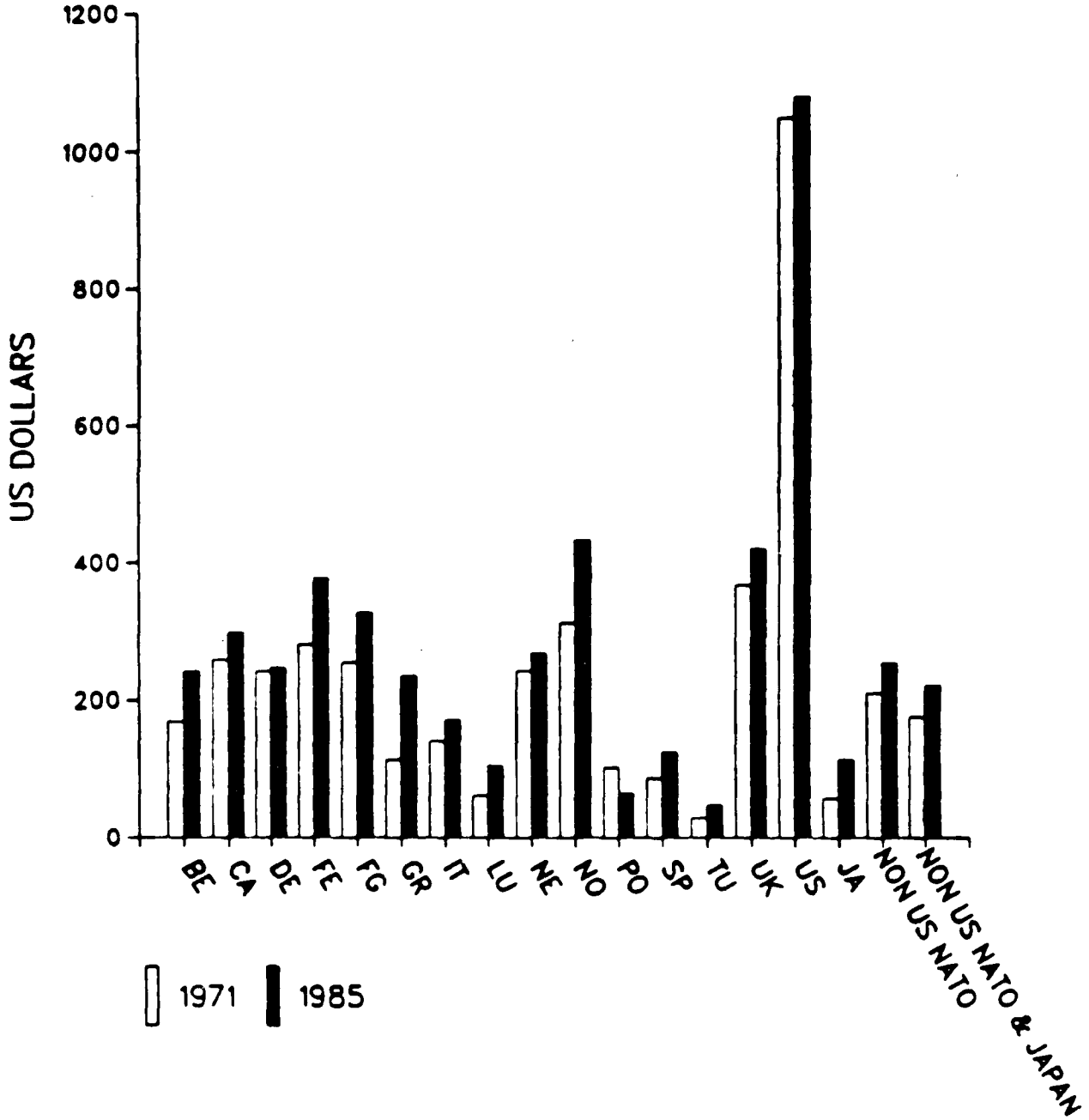


CHART A-6

DEFENSE SPENDING (FY)
PER CAPITA
(1985 CONSTANT DOLLARS – 1985 EXCHANGE RATES)



NATO's Southern Region members occupy the bottom rungs of the Alliance's per capita GDP ladder. Per capita national income among these nations ranges from $6,300 for Italy (twelfth among the countries) down to $1,100 for Turkey (last in the Alliance).

Between 1971 and 1985, the greatest increases in per capita GDP were achieved by Japan and Norway (66 percent and 57 percent, respectively). The Netherlands and the United Kingdom, with increases of 20 and 26 percent, respectively, showed the smallest improvement.

TOTAL DEFENSE SPENDING PER CAPITA

This indicator relates a nation's defense spending to its population size. Although widely used, the measure is difficult to interpret and subject to misunderstanding. Whereas total population may be a good basis for comparing manpower contributions, it is not immediately obvious why it should be a reasonable basis for determining whether nations' total defense contributions are equitable. That is, a nation with a large population may not necessarily have more funds to devote to defense than does a country with a smaller population. For example, Turkey's GDP is roughly equal to Norway's, but its total defense spending is about one-and-one-third times greater (Chart A-6). Yet, because its population is more than 12 times larger than Norway's, Turkey appears (on the basis of the per capita defense spending measure) to be making a substantially smaller contribution than is its Northern Region ally.

TOTAL DEFENSE SPENDING BY RESOURCE CATEGORY [1/]

Charts A-7 through A-10 show how the United States and its allies allocate their defense spending among major resource categories, such as personnel, procurement of major equipment and ammunition, and research and development (RDT&E). The data represent actual or estimated outlays, adjusted to conform to a definition agreed to by NATO on what is to be included in each resource category.

Since the mid-1970s most of the allies have been allocating a growing share of their defense spending to capital expenditures, thereby reversing a downward pattern that existed during the late 1960s and early 1970s. The share allocated to capital by the non-US NATO nations as a group declined from 32 percent in 1967 to 23 percent in 1971, and then increased to between 30 and 33 percent during the early 1980s (Chart A-7). A similar pattern is exhibited for procurement for major equipment and ammunition -- the largest component of capital expenditures. This category declined from 18 percent in 1967 to 14 percent in 1971, and then gradually increased to 21 percent in 1980, 22 percent in 1981 and 1982, and 23 percent in 1983 to 1985. By contrast the US capital percentage fell from around 41 percent in 1968 to 30 percent in 1975, reflecting in part the Southeast Asia phasedown. The share remained in the neighborhood of 30 percent during 1975-78 and then moved upward to 39 percent in 1985.

1/ This section addresses trends through 1985. Information available on allied spending by resource category for 1986 and beyond is not sufficiently refined to enable us to provide firm figures for those years. Based on preliminary data, we are inclined to believe that the patterns exhibited in prior years will not change drastically during 1986 and 1987. The figures discussed in this section exclude France, Greece, Japan, Luxembourg, Spain, and Turkey, for which comparable data are not readily available for all years.

The allied (non-U.S. NATO) personnel percentage (which includes military and civilian pay and allowances and military pensions) increased from around 47 percent in 1967 to 55 percent in 1974, but has declined to 45 percent since then (Chart A-8). The personnel share of US defense spending climbed from 38 percent in 1968 to 50 percent in 1973, remained in the range of 50 to 52 percent during 1973-78, and then declined to 40 percent in 1985.

The allied percentage allocated to "other operating" expenditures (which encompasses all operations and maintenance expenditures less military and civlian pay allowances) dropped from 24 percent of total defense spending in 1967 to 20 percent in 1973. Since 1973, the share has remained between 20 and 23 percent. US expenditures in this category dropped from 21 percent to 17 percent of total spending between 1970 and 1974, and then gradually increased to the 22-25 percent range during 1980-85.

Charts A-9 and A-10 compare percentage of 1985 defense outlays allocated to each resource category by the United States, selected allies, and all of the allies combined (excluding, as indicated earlier, France Greece, Japan Luxembourg, Spain, and Turkey).

As Chart A-9 shows, the British lead all of the NATO nations in the percentage of total defense spending devoted to capital expenditures. The United Kingdom's allocation of about 45 percent is followed by 39 percent for the United States, between 25 and 35 percent for Norway, the Netherlands, Germany, Canada, and Turkey, and roughly 20-25 percent for most of the other nations.

Germany's percentage for major equipment and ammunition (18 percent) is relatively low vis-a-vis the percentage of the United States and the United Kingdom and several other nations. This appears to be attributable in part to Germany's relatively greater emphasis on labor-intensive ground forces and its relatively modest emphasis on capital-intensive naval forces.

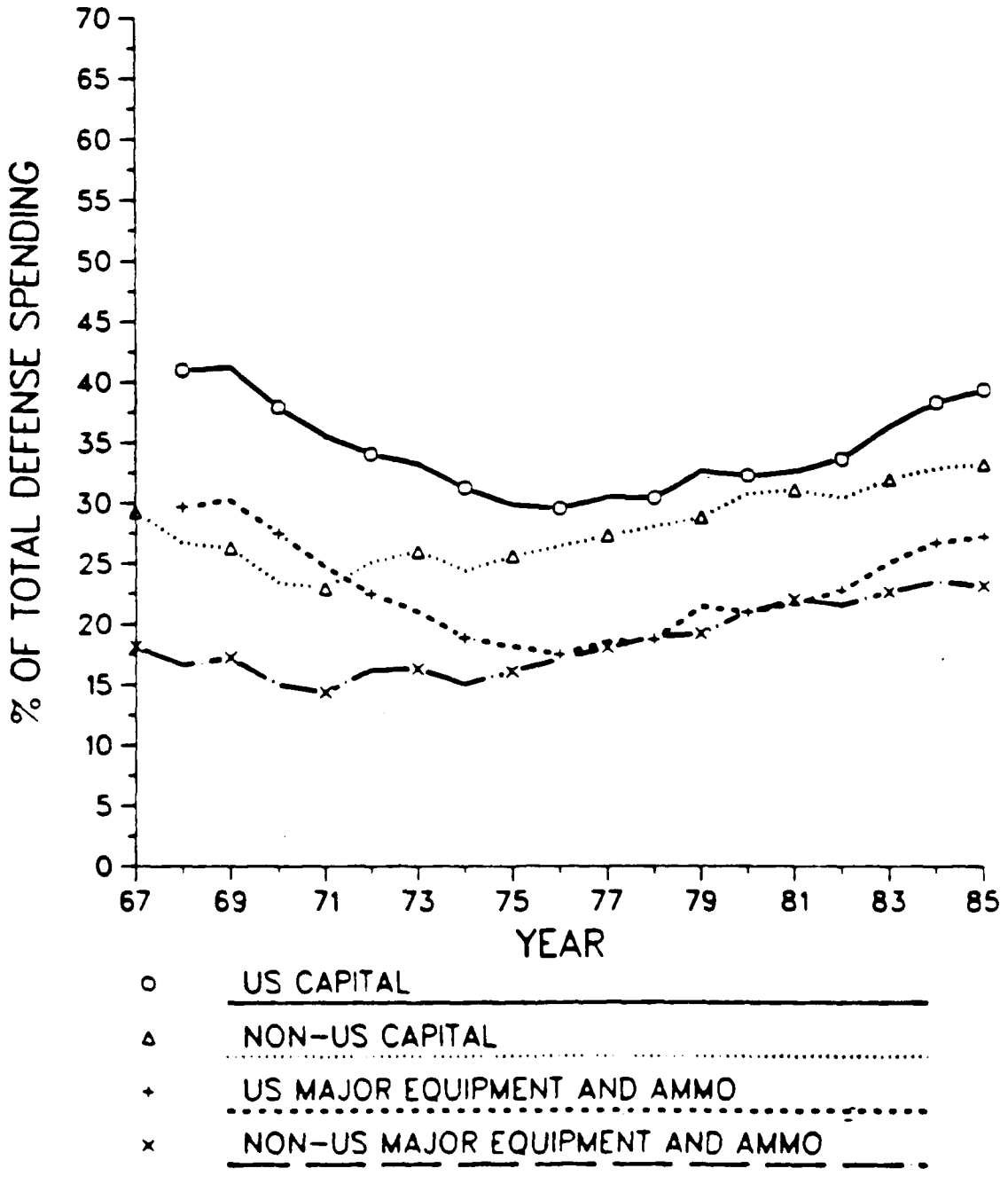
Canada's capital percentage figure was one of the lowest in NATO during the 1970s, reflecting years of inaction regarding major equipment replacement needs. The picture has become brighter, however, thanks to a long-range improvement program. Under this plan, the Canadians have acquired or are acquiring new maritime patrol aircraft, tanks, and combat aircraft. As a result, the capital percentage has increased from less than 15 percent in the mid-1970s to more than 27 percent in 1985.

British spending for RDT&E has, for most years since the early 1950s, been the highest or second highest in NATO as a percentage of total defense spending.

The share of total spending allocated to personnel ranges from over 60 percent for Belgium and Portugal to around 35 percent for the British. Both the United States and Germany allocate less than half of their budgets to this category (38 percent and 46 percent, respectively.) The weighted average for all of the non-US nations (excluding France, Greece, Japan, Luxembourg, Spain, and Turkey) is 45 percent.

CHART A-7

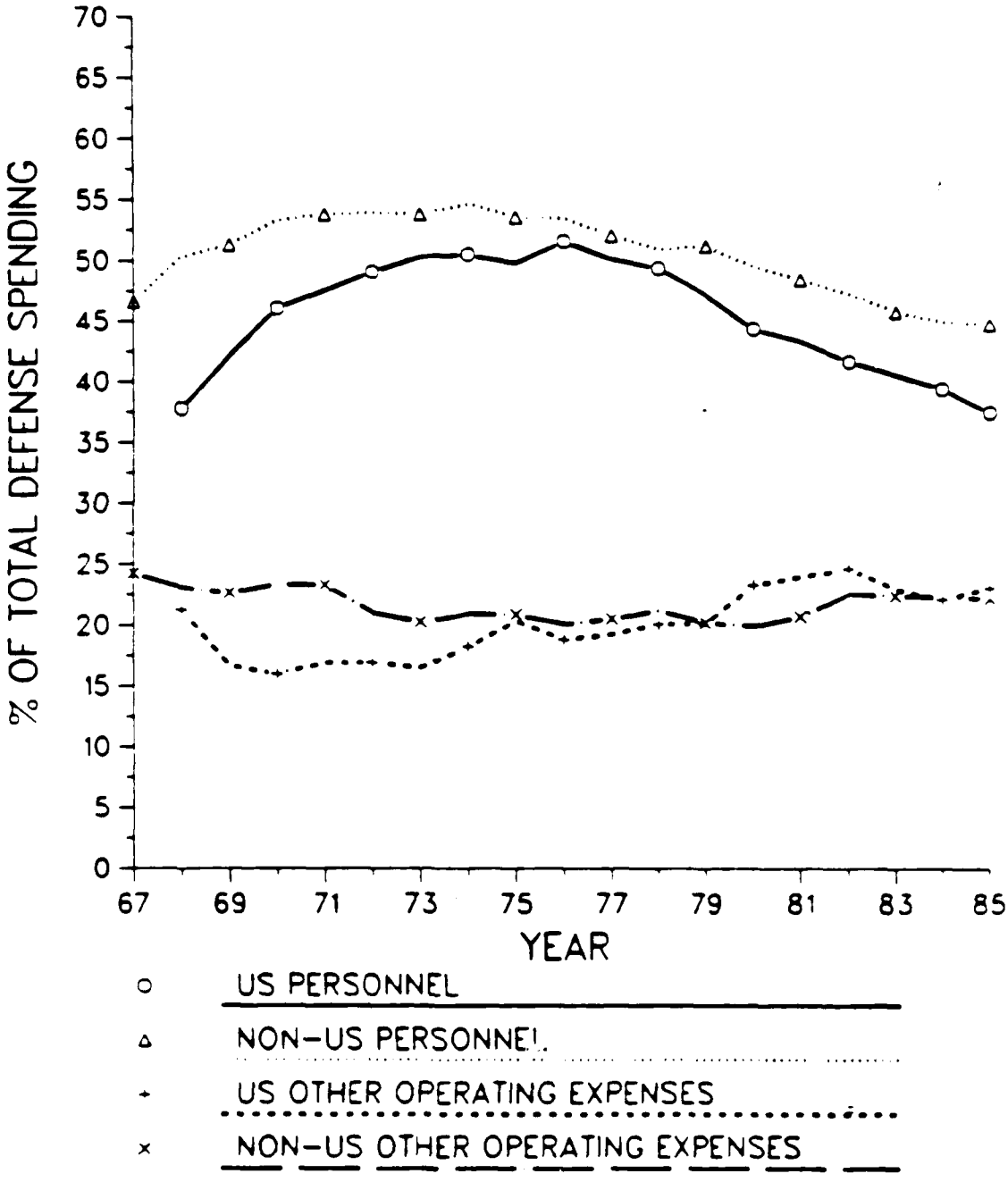
US AND NON-US NATO SPENDING FOR CAPITAL AND MAJOR EQUIPMENT AND AMMUNITION (% OF TOTAL DEFENSE SPENDING)



Excludes FR, GR, LU, TU, SP

CHART A-8

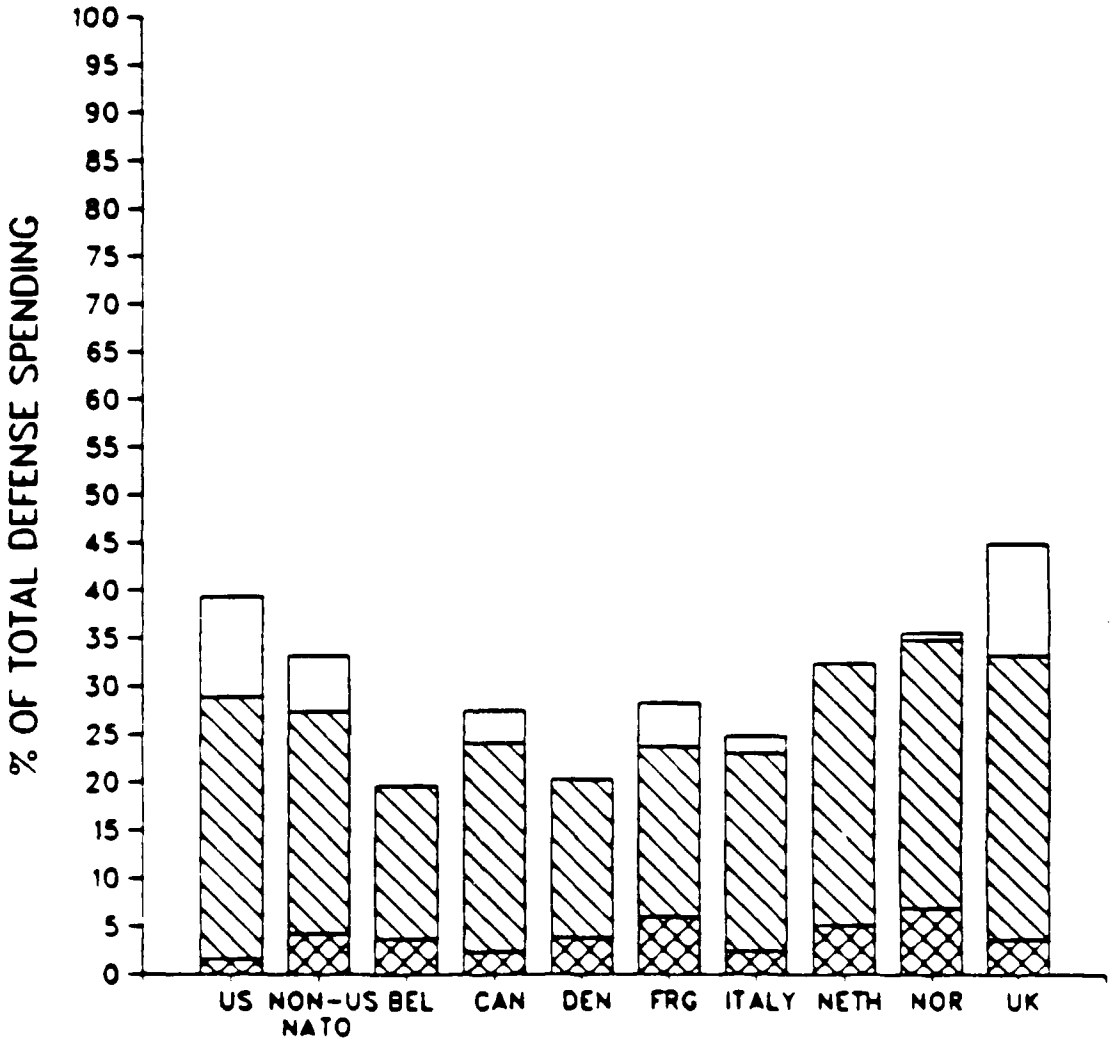
US AND NON-US NATO SPENDING FOR PERSONNEL AND OTHER OPERATING EXPENDITURES (% OF TOTAL DEFENSE SPENDING)



Excludes FR, GR, LU, TU, SP

CHART A-9

PERCENT OF TOTAL DEFENSE SPENDING ALLOCATED TO CAPITAL EXPENDITURES 1985

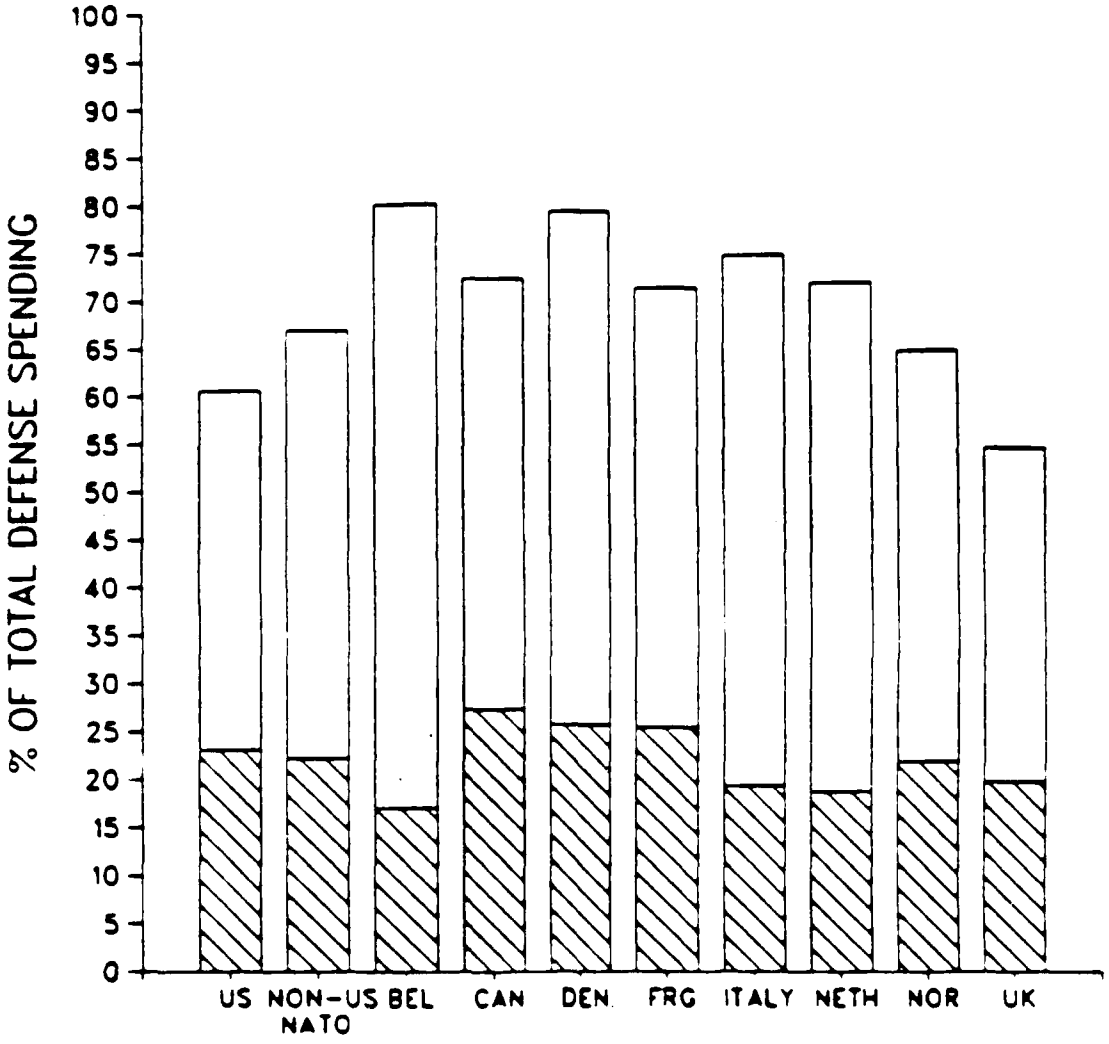


	US	NON-US NATO
RDT&E	10.5	5.8
EQUIP	27.2	23.2
MILCON	1.7	4.2
TOT CAP	39.4	33.2

Non-US average excludes FR, GR, LU, TU, SP

CHART A-10

PERCENT OF TOTAL DEFENSE SPENDING ALLOCATED TO OPERATING EXPENDITURES 1985



	US	NON-US NATO
PERS	37.5	44.8
O&M	23.1	22.2
TOT OP	60.6	67.1

Non-US average excludes FR, GR, LU, TU, SP

CHART A-11

Total Defense Spending (FY)
(1985 Constant Dollars in Billions - 1985 Exchange Rates)
(Including Spain)

	1971			1985			Total % Change
	$	% of NATO & Japan Total	Rank	$	% of NATO & Japan Total	Rank	71 vs 85
Belgium	$ 1.64	0.5%	10	$ 2.38	0.6%	10	+45.7
Canada	$ 5.58	1.9%	7	$ 7.56	2.0%	7	+35.4
Denmark	$ 1.20	0.4%	12	$ 1.26	0.3%	14	+5.1
France	$ 14.39	4.8%	4	$ 20.78	5.6%	3	+44.4
Germany	$ 15.58	5.2%	3	$ 19.92	5.3%	4	+27.8
Greece	$ 1.00	0.3%	14	$ 2.33	0.6%	12	+133.4
Italy	$ 7.58	2.5%	5	$ 9.73	2.6%	6	+28.4
Luxembourg	$ 0.02	0.0%	16	$ 0.04	0.0%	16	+80.9
Netherlands	$ 3.19	1.1%	8	$ 3.88	1.0%	9	+21.6
Norway	$ 1.22	0.4%	11	$ 1.80	0.5%	13	+47.4
Portugal	$ 0.92	0.3%	15	$ 0.65	0.2%	15	-28.6
Spain	$ 2.95	1.0%	9	$ 4.80	1.3%	8	+62.6
Turkey	$ 1.06	0.4%	13	$ 2.37	0.6%	11	+124.0
UK	$ 20.55	6.8%	2	$ 23.79	6.4%	2	+15.8
US	$ 217.68	72.4%	1	$ 258.17	69.2%	1	+18.6
Japan	$ 6.03	2.0%	6	$ 13.70	3.7%	5	+127.2
Non US NATO	$ 76.88	25.6%		$ 101.30	27.1%		+31.8
Non US NATO + Japan	$ 82.91	27.6%		$ 115.00	30.8%		+38.7
Total NATO	$ 294.56	98.0%		$ 359.47	96.3%		+22.0
Total NATO + Japan	$ 300.59	100.0%		$ 373.16	100.0%		+24.1

CHART A-12

Total Defense Spending (CY) as a percent of GDP
(Including Spain)

	1971			1985			Total % Change
	%	% of Highest Nation	Rank	%	% of Highest Nation	Rank	71 vs 85
Belgium	2.9	39.8%	10	3.0	42.6%	10	+3.3
Canada	2.2	30.3%	14	2.2	31.1%	13	-0.6
Denmark	2.4	33.0%	13	2.2	30.5%	14	-10.6
France	4.0	54.2%	6	4.1	57.0%	5	+1.8
Germany	3.4	45.9%	8	3.2	44.9%	7	-5.5
Greece	4.7	63.5%	4	7.1	100.0%	1	+52.4
Italy	2.7	36.6%	11	2.7	38.0%	12	+0.4
Luxembourg	0.8	10.7%	16	1.1	15.0%	15	+35.8
Netherlands	3.3	44.3%	9	3.1	43.5%	9	-5.0
Norway	3.4	45.9%	7	3.3	46.0%	6	-3.1
Portugal	7.4	100.0%	1	3.1	44.1%	8	-57.4
Spain	2.6	34.6%	12	2.9	39.9%	11	+11.6
Turkey	4.5	61.4%	5	4.5	62.9%	4	-1.0
UK	4.9	66.1%	3	5.2	72.5%	3	+6.0
US	7.0	94.4%	2	6.9	96.9%	2	-0.7
Japan	0.8	11.3%	15	1.0	14.1%	16	+20.9
Non US NATO	3.5	47.5%		3.5	49.1%		-0.1
Non US NATO + Japan	3.0	40.1%		2.7	37.9%		-8.6
Total NATO	5.4	73.2%		5.5	76.4%		+1.0
Total NATO + Japan	4.9	66.7%		4.7	65.9%		-4.4

CHART A-13

Total Active Duty Military and Civilian Manpower
(Thousands)

	1971			1985			Total % Change
		% of NATO & Japan Total	Rank		% of NATO & Japan Total	Rank	71 vs 85
Belgium	114.3	1.4%	12	113.7	1.5%	12	-0.6
Canada	127.9	1.5%	11	122.9	1.6%	10	-3.8
Denmark	53.6	0.6%	13	39.0	0.5%	14	-27.2
France	705.3	8.4%	3	703.8	9.0%	3	-0.2
Germany	645.3	7.7%	5	671.4	8.6%	4	+4.0
Greece	202.7	2.4%	9	235.7	3.0%	8	+16.3
Italy	600.5	7.2%	6	588.4	7.5%	5	-2.0
Luxembourg	1.2	0.0%	15	1.4	0.0%	15	+15.6
Netherlands	141.9	1.7%	10	130.7	1.7%	9	-7.9
Norway	47.0	0.6%	14	47.1	0.6%	13	+0.2
Portugal	249.4	3.0%	8	116.4	1.5%	11	-53.3
Turkey	650.5	7.8%	4	866.7	11.1%	2	+33.2
UK	719.0	8.6%	2	538.4	6.9%	6	-25.1
US	3831.7	45.9%	1	3381.0	43.2%	1	-11.8
Japan	258.9	3.1%	7	267.6	3.4%	7	+3.4
Non US NATO	4258.6	51.0%		4175.6	53.4%		-1.9
Non US NATO + Japan	4517.5	54.1%		4443.3	56.8%		-1.6
Total NATO	8090.3	96.9%		7556.6	96.6%		-6.6
Total NATO + Japan	8349.2	100.0%		7824.3	100.0%		-6.3

CHART A-14

Total Active Duty Military and Civilian Manpower
(Thousands)
(Including Spain)

	1971			1985			Total % Change
		% of NATO & Japan Total	Rank		% of NATO & Japan Total	Rank	71 vs 85
Belgium	114.3	1.4%	12	113.7	1.4%	13	-0.6
Canada	127.9	1.5%	11	122.9	1.5%	11	-3.8
Denmark	53.6	0.6%	13	39.0	0.5%	15	-27.2
France	705.3	8.4%	3	703.8	8.4%	3	-0.2
Germany	645.3	7.7%	5	671.4	8.0%	4	+4.0
Greece	202.7	2.4%	9	235.7	2.8%	9	+16.3
Italy	600.5	7.2%	6	588.4	7.0%	5	-2.0
Luxembourg	1.2	0.0%	15	1.4	0.0%	16	+15.6
Netherlands	141.9	1.7%	10	130.7	1.6%	10	-7.9
Norway	47.0	0.6%	14	47.1	0.6%	14	+0.2
Portugal	249.4	3.0%	8	116.4	1.4%	12	-53.3
Spain	*	* %	*	524.1	6.3%	7	0.0
Turkey	650.5	7.8%	4	866.7	10.4%	2	+33.2
UK	719.0	8.6%	2	538.4	6.4%	6	-25.1
US	3831.7	45.9%	1	3381.0	40.5%	1	-11.8
Japan	258.9	3.1%	7	267.6	3.2%	8	+3.4
Non US NATO	4258.6	51.0%		4699.7	56.3%		+10.4
Non US NATO + Japan	4517.5	54.1%		4967.4	59.5%		+10.0
Total NATO	8090.3	96.9%		8080.7	96.8%		-0.1
Total NATO + Japan	8349.2	100.0%		8348.4	100.0%		0.0

CHART A-15

Total Active Duty Military Manpower
(Thousands)

	1971			1985			Total % Change
		% of NATO & Japan Total	Rank		% of NATO & Japan Total	Rank	71 vs 85
Belgium	106.8	1.7%	11	106.7	1.8%	9	0.0
Canada	86.9	1.4%	12	83.0	1.4%	12	-4.5
Denmark	44.5	0.7%	13	29.5	0.5%	14	-33.7
France	569.3	9.0%	3	562.1	9.5%	3	-1.3
Germany	472.0	7.5%	5	495.2	8.4%	5	+4.9
Greece	178.7	2.8%	9	201.3	3.4%	8	+12.6
Italy	526.0	8.3%	4	531.0	9.0%	4	+0.9
Luxembourg	1.1	0.0%	15	1.2	0.0%	15	+17.0
Netherlands	113.0	1.8%	10	103.2	1.8%	10	-8.7
Norway	36.3	0.6%	14	35.6	0.6%	13	-1.9
Portugal	244.2	3.9%	7	102.0	1.7%	11	-58.2
Turkey	614.5	9.7%	2	813.6	13.8%	2	+32.4
UK	384.0	6.1%	6	334.3	5.7%	6	-12.9
US	2714.0	42.9%	1	2244.0	38.1%	1	-17.3
Japan	234.3	3.7%	8	244.3	4.1%	7	+4.3
Non US NATO	3377.3	53.4%		3398.7	57.7%		+0.6
Non US NATO + Japan	3611.6	57.1%		3643.0	61.9%		+0.9
Total NATO	6091.2	96.3%		5642.7	95.9%		-7.4
Total NATO + Japan	6325.5	100.0%		5887.0	100.0%		-6.9

CHART A-16

Total Active Duty Military Manpower
(Thousands)
(Including Spain)

	1971			1985			Total % Change
		% of NATO & Japan Total	Rank		% of NATO & Japan Total	Rank	71 vs 85
Belgium	106.8	1.7%	11	106.7	1.7%	10	0.0
Canada	86.9	1.4%	12	83.0	1.3%	13	-4.5
Denmark	44.5	0.7%	13	29.5	0.5%	15	-33.7
France	569.3	9.0%	3	562.1	8.8%	3	-1.3
Germany	472.0	7.5%	5	495.2	7.8%	5	+4.9
Greece	178.7	2.8%	9	201.3	3.2%	9	+12.6
Italy	526.0	8.3%	4	531.0	8.4%	4	+0.9
Luxembourg	1.1	0.0%	15	1.2	0.0%	16	+17.0
Netherlands	113.0	1.8%	10	103.2	1.6%	11	-8.7
Norway	36.3	0.6%	14	35.6	0.6%	14	-1.9
Portugal	244.2	3.9%	7	102.0	1.6%	12	-58.2
Spain				468.5	7.4%	6	0.0
Turkey	614.5	9.7%	2	813.6	12.8%	2	+32.4
UK	384.0	6.1%	6	334.3	5.3%	7	-12.9
US	2714.0	42.9%	1	2244.0	35.3%	1	-17.3
Japan	234.3	3.7%	8	244.3	3.8%	8	+4.3
Non US NATO	3377.3	53.4%		3867.2	60.8%		+14.5
Non US NATO + Japan	3611.6	57.1%		4111.5	64.7%		+13.8
Total NATO	6091.2	96.3%		6111.2	96.2%		+0.3
Total NATO + Japan	6325.5	100.0%		6355.5	100.0%		+0.5

CHART A-17

Active Duty Military and Civilian Manpower and Committed Reserves
(Thousands)
(Including Spain)

	1985		
		% of NATO & Japan Total	Rank
Belgium	237.9	1.79%	12
Canada	150.5	1.13%	14
Denmark	110.5	0.83%	15
France	1158.5	8.71%	4
Germany	1441.5	10.83%	2
Greece	490.2	3.68%	8
Italy	851.9	6.40%	5
Luxembourg	1.4	0.01%	16
Netherlands	288.1	2.17%	10
Norway	244.3	1.84%	11
Portugal	167.3	1.26%	13
Spain	834.7	6.27%	6
Turkey	1205.7	9.06%	3
UK	710.6	5.34%	7
US	5118.4	38.46%	1
Japan	295.5	2.22%	9
Non US NATO	7893.1	59.32%	
Non US NATO + Japan	8188.6	61.54%	
Total NATO	13011.5	97.78%	
Total NATO + Japan	13307.0	100.00%	

CHART A-18

Total Active Duty Military and Civilian Manpower
As a Percent of Total Population

	1971			1985			Total % Change
	%	% of Highest Nation	Rank	%	% of Highest Nation	Rank	71 vs 85
Belgium	1.18	42.5%	8	1.15	48.7%	5	-2.4
Canada	0.59	21.3%	13	0.48	20.4%	13	-18.2
Denmark	1.08	38.8%	10	0.76	32.2%	12	-29.3
France	1.38	49.5%	5	1.28	53.9%	4	-7.3
Germany	1.05	37.8%	12	1.10	46.4%	8	+4.8
Greece	2.30	82.5%	2	2.37	100.0%	1	+3.2
Italy	1.11	40.0%	9	1.03	43.5%	9	-7.3
Luxembourg	0.35	12.7%	14	0.39	16.3%	14	+8.9
Netherlands	1.08	38.7%	11	0.90	38.1%	11	-16.1
Norway	1.20	43.3%	7	1.14	47.9%	7	-5.7
Portugal	2.78	100.0%	1	1.14	48.0%	6	-59.1
Turkey	1.78	64.0%	4	1.74	73.4%	2	-2.3
UK	1.29	46.2%	6	0.95	40.1%	10	-26.1
US	1.85	66.3%	3	1.41	59.6%	3	-23.4
Japan	0.24	8.8%	15	0.22	9.4%	15	-9.5
Non US NATO	1.29	46.3%		1.16	49.1%		-9.8
Non US NATO + Japan	1.04	37.2%		0.93	39.1%		-10.6
Total NATO	1.50	54.1%		1.26	53.3%		-16.0
Total NATO + Japan	1.30	46.6%		1.09	45.9%		-16.1

CHART A-19

Total Active Duty Military and Civilian Manpower
As a Percent of Total Population

(Including Spain)

	1971			1985			Total % Change
	%	% of Highest Nation	Rank	%	% of Highest Nation	Rank	71 vs 85
Belgium	1.18	42.5%	8	1.15	48.7%	6	-2.4
Canada	0.59	21.3%	13	0.48	20.4%	14	-18.2
Denmark	1.08	38.8%	10	0.76	32.2%	13	-29.3
France	1.38	49.5%	5	1.28	53.9%	5	-7.3
Germany	1.05	37.8%	12	1.10	46.4%	9	+4.5
Greece	2.30	82.5%	2	2.37	100.0%	1	+3.2
Italy	1.11	40.0%	9	1.03	43.5%	10	-7.3
Luxembourg	0.35	12.7%	14	0.39	16.3%	15	+8.9
Netherlands	1.08	38.7%	11	0.90	38.1%	12	-16.1
Norway	1.20	43.3%	7	1.14	47.9%	8	-5.7
Portugal	2.78	100.0%	1	1.14	48.0%	7	-59.1
Spain				1.36	57.2%	4	0.0
Turkey	1.78	64.0%	4	1.74	73.4%	2	-2.3
UK	1.29	46.2%	6	0.95	40.1%	11	-26.1
US	1.85	66.3%	3	1.41	59.6%	3	-23.4
Japan	0.24	8.8%	15	0.22	9.4%	16	-9.5
Non US NATO	1.29	46.3%		1.18	49.8%		-8.4
Non US NATO + Japan	1.04	37.2%		0.96	40.4%		-7.5
Total NATO	1.50	54.1%		1.27	53.5%		-15.7
Total NATO + Japan	1.30	46.6%		1.10	46.5%		-15.1

CHART A-20

Total Active Duty Military Manpower
As a Percent of Total Population

	1971			1985			Total % Change
	%	% of Highest Nation	Rank	%	% of Highest Nation	Rank	71 vs 85
Belgium	1.10	40.5%	6	1.08	53.5%	3	-1.9
Canada	0.40	14.8%	13	0.33	16.2%	14	-18.7
Denmark	0.90	32.9%	9	0.58	28.5%	12	-35.7
France	1.11	40.8%	5	1.02	50.4%	4	-8.3
Germany	0.77	28.3%	11	0.81	40.1%	9	+5.4
Greece	2.02	74.3%	2	2.02	100.0%	1	0.0
Italy	0.97	35.8%	7	0.93	45.9%	7	-4.6
Luxembourg	0.31	11.3%	14	0.34	16.7%	13	+10.3
Netherlands	0.86	31.4%	10	0.71	35.2%	10	-16.8
Norway	0.93	34.1%	8	0.86	42.4%	8	-7.7
Portugal	2.72	100.0%	1	1.00	49.3%	5	-63.4
Turkey	1.68	61.7%	3	1.63	80.7%	2	-2.9
UK	0.69	25.2%	12	0.59	29.2%	11	-14.1
US	1.31	48.0%	4	0.94	46.4%	6	-28.2
Japan	0.22	8.1%	15	0.20	10.0%	15	-8.7
Non US NATO	1.02	37.5%		0.95	46.8%		-7.4
Non US NATO + Japan	0.83	30.4%		0.76	37.5%		-8.4
Total NATO	1.13	41.6%		0.94	46.6%		-16.7
Total NATO + Japan	0.98	36.1%		0.82	40.5%		-16.7

CHART A-21

Total Active Duty Military Manpower
As a Percent of Total Population
(Including Spain)

	1971			1985			Total % Change
	%	% of Highest Nation	Rank	%	% of Highest Nation	Rank	71 vs 85
Belgium	1.10	40.5%	6	1.08	53.5%	4	-1.9
Canada	0.40	14.8%	13	0.33	16.2%	15	-18.7
Denmark	0.90	32.9%	9	0.58	28.5%	13	-35.7
France	1.11	40.8%	5	1.02	50.4%	5	-8.3
Germany	0.77	28.3%	11	0.81	40.1%	10	+5.4
Greece	2.02	74.3%	2	2.02	100.0%	1	0.0
Italy	0.97	35.8%	7	0.93	45.9%	8	-4.6
Luxembourg	0.31	11.3%	14	0.34	16.7%	14	+10.3
Netherlands	0.86	31.4%	10	0.71	35.2%	11	-16.8
Norway	0.93	34.1%	8	0.86	42.4%	9	-7.7
Portugal	2.72	100.0%	1	1.00	49.3%	6	-63.4
Spain				1.21	59.9%	3	0.0
Turkey	1.68	61.7%	3	1.63	80.7%	2	-2.9
UK	0.69	25.2%	12	0.59	29.2%	12	-14.1
US	1.31	48.0%	4	0.94	46.4%	7	-28.2
Japan	0.22	8.1%	15	0.20	10.0%	16	-8.7
Non US NATO	1.02	37.5%		0.97	48.0%		-4.9
Non US NATO + Japan	0.83	30.4%		0.79	39.2%		-4.3
Total NATO	1.13	41.6%		0.96	47.4%		-15.3
Total NATO + Japan	0.98	36.1%		0.84	41.4%		-14.7

CHART A-22

Active Duty Military and Civilian Manpower and Committed Reserves
As a Percent of Total Population
(Including Spain)

	1985		
	%	% of Highest Nation	Rank
Belgium	2.41	41.0%	4
Canada	0.59	10.1%	14
Denmark	2.16	36.7%	6
France	2.10	35.7%	9
Germany	2.36	40.1%	5
Greece	4.93	83.7%	2
Italy	1.49	25.3%	12
Luxembourg	0.39	6.5%	15
Netherlands	1.99	33.8%	10
Norway	5.89	100.0%	1
Portugal	1.63	27.8%	11
Spain	2.16	36.7%	7
Turkey	2.42	41.1%	3
UK	1.25	21.3%	13
US	2.14	36.3%	8
Japan	0.24	4.2%	16
Non US NATO	1.98	33.7%	
Non US NATO + Japan	1.58	26.8%	
Total NATO	2.04	34.7%	
Total NATO + Japan	1.76	29.8%	

CHART A-23

Division Equivalents Firepower (DEF)
(Including Spain)

	1985	
	% of NATO & Japan Total	Rank
Belgium	1.45%	13
Canada	1.37%	14
Denmark	1.85%	11
France	6.23%	5
Germany	11.49%	2
Greece	6.50%	4
Italy	4.26%	7
Luxembourg	0.01%	16
Netherlands	3.15%	10
Norway	1.55%	12
Portugal	0.78%	15
Spain	3.78%	8
Turkey	9.60%	3
UK	5.25%	6
US	39.00%	1
Japan	3.70%	9
Non US NATO	57.29%	
Non US NATO + Japan	61.00%	
Total NATO	96.30%	
Total NATO + Japan	100.00%	

CHART A-24

Naval Force Tonnage
(All Ships Less Strategic Submarines)
(Including Spain)

	1985	
	% of NATO & Japan Total	Rank
Belgium	0.28%	15
Canada	1.78%	9
Denmark	0.43%	14
France	4.83%	3
Germany	3.21%	4
Greece	1.66%	10
Italy	1.82%	8
Luxembourg	0.00%	16
Netherlands	1.43%	11
Norway	0.62%	13
Portugal	0.63%	12
Spain	2.20%	7
Turkey	3.09%	6
UK	10.89%	2
US	64.02%	1
Japan	3.13%	5
Non US NATO	32.85%	
Non US NATO + Japan	35.98%	
Total NATO	96.87%	
Total NATO + Japan	100.00%	

CHART A-25

Naval Force Tonnage
(Principal Surface Combatants)

(Including Spain)

	1985	
	% of NATO & Japan Total	Rank
Belgium	0.40%	15
Canada	3.20%	7
Denmark	0.42%	14
France	6.41%	3
Germany	2.74%	9
Greece	2.55%	11
Italy	3.70%	5
Luxembourg	0.00%	16
Netherlands	2.96%	8
Norway	0.81%	13
Portugal	1.09%	12
Spain	3.24%	6
Turkey	2.60%	10
UK	8.29%	2
US	55.54%	1
Japan	6.07%	4
Non US NATO	38.39%	
Non US NATO + Japan	44.46%	
Total NATO	93.93%	
Total NATO + Japan	100.00%	

CHART A-26

Tactical Air Force Combat Aircraft
(Including Spain)

	1985	
	% of NATO & Japan Total	Rank
Belgium	2.32%	9
Canada	1.98%	10
Denmark	1.49%	13
France	8.35%	3
Germany	6.72%	4
Greece	3.48%	8
Italy	5.89%	5
Luxembourg	0.00%	16
Netherlands	1.80%	12
Norway	0.96%	15
Portugal	1.31%	14
Spain	1.91%	11
Turkey	5.28%	6
UK	9.23%	2
US	45.47%	1
Japan	3.81%	7
Non US NATO	50.72%	
Non US NATO + Japan	54.53%	
Total NATO	96.19%	
Total NATO + Japan	100.00%	

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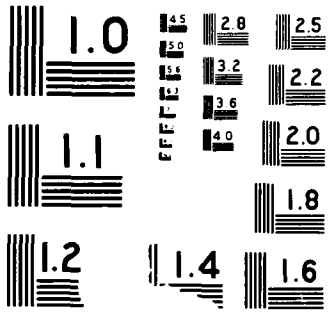
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CHART A-27

Gross Domestic Product
1985 Constant Dollars in Billions - 1985 Exchange Rates

(Including Spain)

	1971			1985			Total % Change
	$	% of NATO & Japan Total	Rank	$	% of NATO & Japan Total	Rank	71 vs 85
Belgium	$ 58	1.1%	10	$ 78	1.0%	10	+35.6
Canada	$ 206	3.9%	7	$ 342	4.2%	7	+66.0
Denmark	$ 43	0.8%	11	$ 58	0.7%	11	+35.6
France	$ 356	6.7%	4	$ 510	6.3%	4	+43.2
Germany	$ 461	8.6%	3	$ 622	7.7%	3	+34.9
Greece	$ 21	0.4%	14	$ 33	0.4%	14	+54.9
Italy	$ 255	4.8%	6	$ 359	4.4%	6	+40.9
Luxembourg	$ 2	0.0%	16	$ 4	0.0%	16	+47.9
Netherlands	$ 95	1.8%	9	$ 125	1.5%	9	+31.5
Norway	$ 33	0.6%	12	$ 55	0.7%	12	+66.9
Portugal	$ 13	0.2%	15	$ 21	0.3%	15	+57.2
Spain	$ 117	2.2%	8	$ 168	2.1%	8	+44.0
Turkey	$ 27	0.5%	13	$ 53	0.7%	13	+92.0
UK	$ 353	6.6%	5	$ 451	5.6%	5	+27.7
US	$ 2584	48.4%	1	$ 3841	47.5%	1	+48.6
Japan	$ 718	13.4%	2	$ 1362	16.9%	2	+89.8
Non US NATO	$ 2040	38.2%		$ 2877	35.6%		+41.0
Non US NATO + Japan	$ 2757	51.6%		$ 4239	52.5%		+53.7
Total NATO	$ 4624	86.6%		$ 6718	83.1%		+45.3
Total NATO + Japan	$ 5341	100.0%		$ 8080	100.0%		+51.3

CHART A-28

Total Population
(Millions)
(Including Spain)

	1971			1985			Total % Change
		% of NATO & Japan Total	Rank		% of NATO & Japan Total	Rank	71 vs 85
Belgium	9.7	1.4%	11	9.9	1.3%	13	+1.9
Canada	21.6	3.2%	9	25.4	3.3%	9	+17.5
Denmark	5.0	0.7%	14	5.1	0.7%	14	+3.0
France	51.3	7.6%	6	55.2	7.3%	6	+7.6
Germany	61.3	9.0%	3	61.0	8.0%	3	-0.5
Greece	8.8	1.3%	13	9.9	1.3%	12	+12.7
Italy	54.0	8.0%	5	57.1	7.5%	4	+5.8
Luxembourg	0.3	0.1%	16	0.4	0.0%	16	+6.1
Netherlands	13.2	1.9%	10	14.5	1.9%	10	+9.8
Norway	3.9	0.6%	15	4.1	0.5%	15	+6.3
Portugal	9.0	1.3%	12	10.2	1.3%	11	+14.1
Spain	34.2	5.0%	8	38.7	5.1%	8	+13.1
Turkey	36.6	5.4%	7	49.8	6.6%	7	+36.3
UK	55.9	8.2%	4	56.6	7.5%	5	+1.3
US	207.7	30.6%	1	239.3	31.6%	1	+15.2
Japan	105.7	15.6%	2	120.8	15.9%	2	+14.3
Non US NATO	364.7	53.8%		398.0	52.5%		+9.1
Non US NATO + Japan	470.4	69.4%		518.7	68.4%		+10.3
Total NATO	572.4	84.4%		637.3	84.1%		+11.3
Total NATO + Japan	678.0	100.0%		758.0	100.0%		+11.8

CHART A-29

Gross Domestic Product Per Capita
(1985 Constant Dollars - 1985 Exchange Rates)

(Including Spain)

	1971			1985			Total % Change
	$	% of Highest Nation	Rank	$	% of Highest Nation	Rank	71 vs 85
Belgium	$ 5981	48.1%	11	$ 7962	49.6%	10	+33.1
Canada	$ 9535	76.6%	2	$ 13465	83.9%	2	+41.2
Denmark	$ 8593	69.1%	3	$ 11313	70.5%	4	+31.7
France	$ 6952	55.9%	8	$ 9251	57.6%	8	+33.1
Germany	$ 7516	60.4%	5	$ 10190	63.5%	6	+35.6
Greece	$ 2387	19.2%	14	$ 3281	20.4%	14	+37.5
Italy	$ 4714	37.9%	12	$ 6278	39.1%	12	+33.2
Luxembourg	$ 6969	56.0%	7	$ 9715	60.5%	7	+39.4
Netherlands	$ 7201	57.9%	6	$ 8628	53.8%	9	+19.8
Norway	$ 8392	67.4%	4	$ 13182	82.1%	3	+57.1
Portugal	$ 1473	11.8%	15	$ 2030	12.6%	15	+37.8
Spain	$ 3420	27.5%	13	$ 4356	27.1%	13	+27.4
Turkey	$ 751	6.0%	16	$ 1057	6.6%	16	+40.8
UK	$ 6313	50.7%	10	$ 7957	49.6%	11	+26.0
US	$ 12443	100.0%	1	$ 16051	100.0%	1	+29.0
Japan	$ 6789	54.6%	9	$ 11280	70.3%	5	+66.2
Non US NATO	$ 5593	45.0%		$ 7230	45.0%		+29.3
Non US NATO + Japan	$ 5862	47.1%		$ 8173	50.9%		+39.4
Total NATO	$ 8079	64.9%		$ 10542	65.7%		+30.5
Total NATO + Japan	$ 7878	63.3%		$ 10660	66.4%		+35.3

CHART A-30

Per Capita Defense Spending (FY)
(1985 Constant Dollars in Billions - 1985 Exchange Rates)
(Including Spain)

	1971			1985			Total % Change
	$	% of Highest Nation	Rank	$	% of Highest Nation	Rank	71 vs 85
Belgium	$ 169	16.1%	9	$ 242	22.4%	9	+43.0
Canada	$ 259	24.7%	5	$ 298	27.6%	6	+15.2
Denmark	$ 241	23.0%	8	$ 246	22.8%	8	+2.0
France	$ 281	26.8%	4	$ 377	34.9%	4	+34.2
Germany	$ 254	24.2%	6	$ 327	30.3%	5	+28.4
Greece	$ 113	10.8%	11	$ 234	21.7%	10	+107.1
Italy	$ 140	13.4%	10	$ 170	15.8%	11	+21.4
Luxembourg	$ 61	5.8%	14	$ 104	9.7%	14	+70.6
Netherlands	$ 242	23.1%	7	$ 268	24.9%	7	+10.8
Norway	$ 312	29.8%	3	$ 433	40.1%	2	+38.7
Portugal	$ 102	9.7%	12	$ 64	5.9%	15	-37.5
Spain	$ 86	8.2%	13	$ 124	11.5%	12	+43.8
Turkey	$ 29	2.8%	16	$ 47	4.4%	16	+64.3
UK	$ 368	35.1%	2	$ 420	38.9%	3	+14.3
US	$ 1048	100.0%	1	$ 1079	100.0%	1	+2.9
Japan	$ 57	5.4%	15	$ 113	10.5%	13	+98.8
Non US NATO	$ 211	20.1%		$ 255	23.6%		+20.7
Non US NATO + Japan	$ 176	16.8%		$ 222	20.5%		+25.8
Total NATO	$ 515	49.1%		$ 564	52.3%		+9.6
Total NATO + Japan	$ 443	42.3%		$ 492	45.6%		+11.0

APPENDIX B

BURDENSHARING MEASUREMENT FACTORS

DATA PROBLEMS

Any discussion of comparative burdensharing must rest on comparability of the underlying data on which comparisons are based. Ultimately all the data must come from the countries concerned, but each has its own budgetary, financial and tax systems. In addition, different methods of recruiting and managing manpower make it difficult to compare personnel costs between and among nations. Problems are created by fluctuations in international exchange rates and differences in the quality and use of inflation indicators. NATO has attempted to deal with some of these problems, e.g., by agreeing on a common definition of what constitutes defense expenditures. NATO has not, however, formally addressed such problems as differences in purchasing power parity, the effects of taxation on defense expenditures, or ways to normalize manpower costs resulting from the use of volunteers or conscripts.

DEFINITION OF DEFENSE EXPENDITURES

The necessary and fundamental basis for a comparison of NATO defense efforts is an agreed common definition of defense expenditures. These are defined broadly, for NATO purposes, as expenditures made by national governments specifically to meet the needs of the country's armed forces. Under this definition expenditures for any given period should represent payments made during that same period, even if, for national accounting reasons, the payments may be charged to a preceding budget period. Only actual payments are counted, and the payment is considered made when the money is actually disbursed. Indirect costs, such as loss of revenue caused by tax exemptions on government transactions, are not counted as payments. An example of a non-defense budget item which might be included in the NATO definition is the cost of domestic security forces (assuming they will be under military authority in wartime, have had military training, and are issued military equipment). Other examples would be government contributions to military pension systems and unreimbursed military assistance to other members of the Alliance. Items which would not be included in the NATO definition are, inter alia, the costs of war damage, veterans' benefits, civil defense, and stockpiling of strategic materials.

The definition above is substantially complete but does not cover all the possible cases. Any division between defense expenditures and other public outlays which contribute to NATO security is partially and necessarily arbitrary. Aid to developing countries and the expense of maintaining free access to Berlin supplement military outlays to the extent that they foster political cohesion and contribute to free world stability.

Some authorities believe that the cost of defense should be defined in terms of the value of civilian goods and services foregone because of the necessity to spend on defense - the opportunity costs, in an economist's definition. The difference between the opportunity cost and the defense expenditure could be significant in the case of the pay of military personnel in countries which rely on conscription, where military pay is lower than the foregone value of their services to the economy. Defense efforts of such countries would be understated in comparison to those of countries with volunteer forces. This distinction holds, however, only when the civilian labor market would offer alternative employment to all conscripted individuals, as in situations of full employment. As unemployment fluctuates in each country the opportunity cost of conscript manpower changes with it.

EXCHANGE RATES

Exchange rate fluctuations exert an important influence on international comparisons of defense burden-sharing. For example, when the value of the US dollar falls in terms of the currency of another NATO ally, that country's defense budget appears larger when converted to dollars. Nevertheless, the amount of defense a given sum can buy remains the same (within the country) despite the fall in terms of the dollar.

In the past year, most NATO currencies have remained fairly stable in terms of each other while most have strengthened against the dollar. None has appreciated significantly. Exchange rates have been held constant in this report to minimize the misleading effects of exchange rate fluctuations on burden-sharing comparisons.

Exchange rate fluctuations reflect economic and political changes in the supply and demand of currencies, which themselves reflect changing financial and trade relationships among countries. They may also reflect changes in mood or business confidence. Because exchange rates are subject to several economic and political forces, the resulting changes in the costs of stationing troops are not considered costs to the Alliance in burdensharing terms.

It is necessary to find a method to equalize exchange rate fluctuations. The most precise method devised to date is the Purchasing Power Parity (PPP) system. This states the number of units of a country's currency which have the same purchasing power for a category of good or services as one US dollar has in a given year. This is a good system for comparison between two countries, but becomes much more difficult when three or more are involved.

Another system, developed by the United Nations, is the Country-Product-Dummy (CPD) method which uses a set of "international prices" derived from purchasing power parities. The UN comparisons using these "international prices" reveal a different picture when compared with straight linear exchange rate conversions. The latter method tends to understate real expenditures by other countries relative to the US, especially when the dollar is strong (as it has been during the past few years).

Because of such problems of statistical methodology NATO uses agreed-upon statistical data and systems in preparing its International Staff Memorandum: "Basic Statistical Data on the Defense Effort and Economic Developments of NATO Countries". The memorandum employs its own exchange rate conversion method to compare national defense expenditures. The NATO international staff is constantly working on the problem of developing better methodology to improve its price deflators. This will lead eventually to the development of an agreed PPP system for defense comparisons. In the meantime, NATO makes its comparisons using the best available data, plus other consistent sources, in its annual International Staff Memorandum.

THE EFFECTS OF INFLATION ON DEFENSE SPENDING MEASUREMENT

The technique for handling the complex problem of measuring the effects of inflation on defense spending comparisons has become a sub-science of its own. The system used in NATO makes use of a calculated deflator which makes possible comparisons among several countries with differing exchange rates. Deflators can be computed in different ways and several methods have been developed in attempts to draw valid comparisons and conclusions about the defense budgets of NATO countries and Japan. None of these is flawless. Nevertheless, the deflator system is the best tool we have devised up to now to enable quick comparisons to be drawn. Though it is widely used, its methodology is constantly being refined. The deflator allows the most accurate comparisons to be made between the prices and budget outlays of one country with those of another, allowing for each country's rate of inflation.

Inflation can have an important impact on the public's perception of defense spending. While budget outlays in actual amounts continue to increase, the goods and services these amounts buy do not increase at the same rate because of inflation. This is a difficult idea to convey to national electorates who, even if they understand the reasoning behind it, are themselves caught in the squeeze of inflation. In inflationary times, there is strong competition among conflicting interests and programs for budgetary resources. When popular social programs are threatened and inflation adds new burdens to those who are caring for the young, old, sick and incapacitated, increase in military spending are not politically popular. The effects of inflation on a nation's will to spend scarce resources on defense can be very strong. All NATO countries have had problems with this in the last few years.

RELATION BETWEEN DEFENSE AND OTHER EXPENDITURES

Some of the European members of the Alliance believe that the division between defense and other public expenditures which contribute to security is somewhat arbitrary. Certainly, payments for social purposes, education, investment in economic growth, assistance to developing countries, maintaining free access to Berlin, etc., complement military outlays in that they contribute to political cohesion and aid in resisting internal and external threats. Any other definition of the defense effort

would also be open to the charge of being arbitrary as well. While some civilian expenditures also strengthen the defense position of member countries it is equally true that military outlays, particularly infrastructure projects, also benefit the civilian economy. The feeling of security which is the product of defense efforts is a necessary prerequisite to prosperity and internal calm and contributes to development and prosperity.

BALANCE OF PAYMENTS

For some countries foreign exchange difficulties have indeed been one of the main obstacles encountered in the defense effort. However, in the case of fairly advanced countries, it is not normally an obstacle of a structural nature, as are the obstacles met by developing countries. In this respect, looking only at the military transactions affecting the foreign exchange position would be misleading; indeed, a relatively large deficit on such transactions may be easily financed by countries whose general balance of payments is positive, or who have accumulated abundant gold and foreign exchange reserves, while even a small deficit on military transactions may seriously add to the balance of payments difficulties experienced by other countries. In short, the problem of the impact of the defense effort on the foreign exchange position of a country has to be examined in the context of its overall external finances, i.e., taking account of the strength of its balance of payments and of its gold and foreign exchange reserves.

INDUSTRIAL IMPACT

Over the years, many programs have been established for the cooperative development and production of NATO weapons. The methods employed have been coproduction, dual-production and the families of weapons concepts. These programs all involve the sharing of development and production costs and have produced large savings in R&D expenditures to individual nations. They are the primary avenue of technology transfer among the nations of the Alliance. Weapons program transfers operate in both directions. For example, the US bought the MAG-58 machine gun and the 120mm tank gun from Europe, and more recently the RITA tactical communication system, and European manufacturers have fabricated the F-16 airframe and components.

In defense equipment trade, the balance is still well in the United States' favor. In dollar terms we sell approximately two times more equipment to Europe than it buys from us. This is partly explained by the preponderance of "big ticket" items, e.g., fighter aircraft we sell to Europe. We are seeking opportunities to develop more of a two-way street in defense trade with our allies.

CONTRIBUTION OF STATIONED FORCES TO HOST NATION ECONOMY

A tangible benefit to nations where NATO troops are stationed is the hard currency contributions, both official and personal, which go along with the maintenance of large standing forces. Housing, food supplies and energy are a few of the major expenditures which are largely bought from the host country. Support services and administration are also largely staffed by nationals of the host country, making military bases important employers in several nations. In the forty years since the end of WW II, the economies of numbers of communities in Western Europe have become tightly linked to the spending patterns of local base administrations. Local economies also benefit from base-related priorities for internal redistribution -- where national governments spend important sums locally in support of facilities on their own soil. While this does not add to the total income of the nations, it has important local effects.

WEST BERLIN

Germany makes substantial outlays for the defense of West Berlin which include the support of their allied garrisons (US, UK and France). There are also programs funded by West Germany designed to promote the political and economic stability of the city. Because of several wartime and postwar agreements, West Berlin expenditures, even for the military garrisons, cannot be included as defense expenditures in NATO tallies. Yet, it is Alliance doctrine that the defense of West Berlin is a NATO commitment. If the funds West Germany spends in West Berlin (over $5.4 billion per annum) were included in her NATO total, her officially documented Alliance burdensharing level would go up substantially. The city of Berlin remains of great psychological value to Germans on both sides of the border, while the NATO commitment to its defense is a visible measure of NATO's resolve in Central Europe.

AID TO DEVELOPING COUNTRIES

Official aid to developing countries is sometimes cited as part of a nations overall defense burden. In addition to military assistance, which is included in NATO's definition of defense expenditure, most industrialized NATO countries extend various types and amounts of developmental assistance to developing countries. While these expenditures do not add directly to NATO's defense capability, they do in general contribute to Free World peace and stability and they do constitute a financial burden on the donor's economy. The proportion of putative economic aid actually assignable to defense-related purpose can only be estimated on a case-by-case basis. There is so much variation in the objectives and recipients of aid that direct comparisons between donor countries are very hard to make.

Further, defining "aid" is extremely difficult and can be misleading. Exemptions from tariff and non-tariff barriers, monetary and non-monetary preferences, standards and codes and a variety of preferential commercial arrangements all influence the amounts of assistance provided in real terms.

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